TEXTILE Manufacturing WORLD

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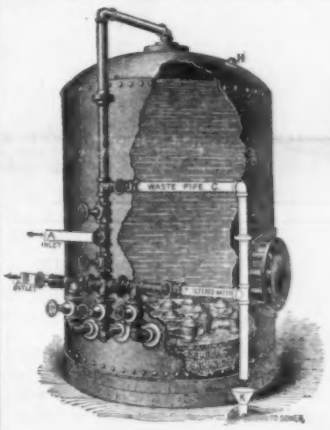

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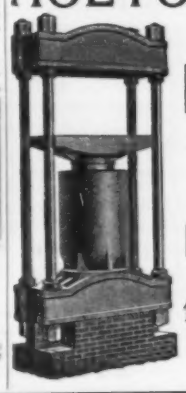

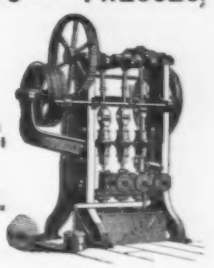

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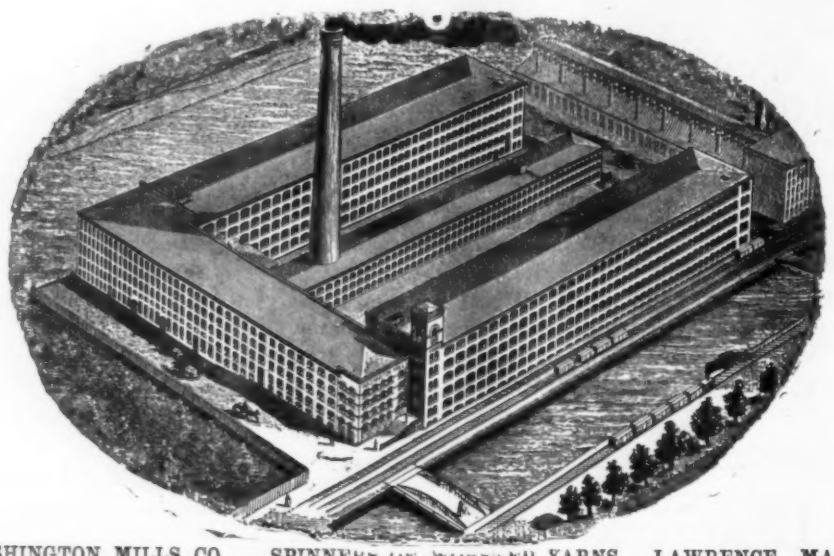

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A MONTHLY JOURNAL
voted to the Development of the Textile Manufacturing Industries of North America.

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Change in Form.

The July issue of the TEXTILE WORLD will appear in greatly altered and in our opinion greatly improved form. The WORLD has long been unique among trade Journals on account of the large size of its pages; indeed many criticisms have been made on this point by our friends, and having become convinced that a change of form was in the line of improvement, the publishers after careful consideration have decided to adopt the magazine form, and the July number will be brought out in that shape. Those to whom the change has been mentioned have commended the idea highly, and we believe all our readers will approve. None of the popular features of the paper will be changed, and the new form makes possible certain improvements which we have long had in mind and which can now be materialized.

Will it Come with a Rush?

All sorts of opinions are expressed as to the course of business when the Tariff is settled.

One man inclines to the belief that the revival will come with a rush, another feels that it will be a long process of recovery.

Many of the wool men feel that there is a long road to travel before we are out of the woods. With some definite knowledge of foreign values, prices must be adjusted to meet them, wage schedules considered, and raw material must be bought at such figures as to come out whole.

All this will doubtless cause much uncertainty and friction at first and many errors in judgment will occur. It must not be forgotten however that by the latest provisions of the Senate Bill, the new schedule on goods does not go into effect till January first, so that there is a period of five months (August 1st. being the date for entry of wool free, if the bill passes before that date) for protected experimenting.

All competent authorities agree on the generally depleted stocks of dry goods all over the country, and once the fetters of doubt are removed it certainly seems as if the characteristic energy of American merchants and manufacturers, which has been so long bottled up, must assert itself, and set the wheels of commerce going at full speed, perhaps not immediately, but as soon as the machinery gets limbered up, so to speak.

Every business man is waiting for the chance to do more business, and when the whole community is in this frame of mind and believing that the settlement of the tariff question is the one thing for which it is waiting to resume its former activity, it seems as if, *with* that settlement, it would resume.

To be sure, the immediate purchasing power of the great bulk of consumers is greatly curtailed, but goods must be manufactured before they can be sold, and this very manufacture helps fill the pockets of the consumer. We look for active business this fall.

The Textile Schedules.

As we are going to press, the Senate is considering the wool schedule, and has agreed upon the cotton schedule with little or no discussion. The specific schedule prepared by the committee of Fall River manufacturers is adopted, although a slight reduction in their figures has been made, as the Finance committee refused to impose higher duties than the McKinley tariff allowed, although the justice of these graded duties was well demonstrated.

Advalorem duties are substituted for specific on cotton yarns valued at more than 40 cents per pound. According to the latest press dispatches from Washington, the new rates impose 3 cents per pound on all numbers of single yarns up to No. 15, one-fifth of a cent per number per pound from No. 15 to No. 30, and one-quarter of a cent per number per pound on all numbers exceeding No. 30.

The rates on double yarns are 6 cents per pound up to No. 20 and three-tenths of a cent per number per pound above No. 20. The provisos conform to the specific rates of the McKinley law, and decree that the duty shall not exceed 8 cents per pound on yarns valued up to 25 cents, nor 15 cents per pound on yarns valued up to 40 cents. The high grade yarns are protected by a uniform ad valorem rate of 45 per cent. on all yarns valued at more than 40 cents per pound.

The schedule covering cloths, reported by Senator Jones on May 7, was restored, and the slight reductions, made under the advice of Mr. Jacob Schoenhof on May 21, were abandoned. The changes go even further than this, and increase the rates on plushes and velvets to 40 per cent. when plain, and 47 1-2 per cent. when bleached, dyed or printed.

The finer grades of stockings, made wholly or in part by knitting machines, are advanced to 50 per cent., and cords, braids and lacings to 45 per cent. Candle and lamp wicking has been included in the paragraph covering cords, at 45 per cent., and cotton damask has been included in the clause for manufacturers of cotton, not specifically provided for, at 35 per cent.

Credit to Whom Credit is Due.

Now that it is fair to assume that the cotton schedule will remain in its present shape if the Democratic tariff bill is enacted, due credit should be given to the gentlemen through whose efforts this scientific schedule was obtained.

When the tariff bill first came up for discussion in the House, a meeting of the fine cotton yarn spinners was held in Boston, as chronicled in these columns, and the association known as the Cotton Yarn Spinners of America was formed, to protect the yarn spinning industry from the disastrous legislation proposed by the Wilson tariff bill. Mr. Arnold B. Sanford, of the Globe Yarn Mills, Fall River, was chosen president of this association, and a legislative committee consisting of R. C. Kerr, of the Kerr Thread Mills, W. D. Howland, of New Bedford, and W. E. Trainer, of Chester, Pa., with President Sanford, was appointed to look after the interests of the yarn spinners, and proceed to Washington to lay the case before Congress. How well they have succeeded is shown by the schedule adopted by the Senate, which is without question compiled on the most correct principle ever embodied in an American tariff.

This system of imposing a graduated specific duty in proportion to the size number of yarn was first suggested by Mr. Sanford in a letter to Senator Aldrich over ten years ago; its merits at that time were generally recognized, and in preparing the schedule which the yarn spinners wished to have adopted, this system was chosen as the most equitable. Its fairness and justice were recognized by the Senate committee, but in the first draft submitted, the rates in several instances figured out a somewhat higher percentage than the McKinley schedule, and this the committee refused to consider, consequently modifications were made, and certain limitations imposed. A serious set back occurred when that aspirant for notoriety, ex-consul Schoenhof appeared on the scene, and for a time it seemed as if a return to the advalorem duties was inevitable, but with patient labor, tact and persistence, the manufacturers finally succeeded in having their just claims accepted.

On the cloth schedules Mr. Simeon B. Chase, treasurer of the King Philip Mills, was an indefatigable worker, and to his efforts are due a large share of the skilful arrangement of this section.

Mr. Robert Howard of Fall River, also did valuable service in furnishing the senate committee with facts and figures concerning the cost of labor in this country and abroad, which had a direct bearing on the case.

To all these gentlemen the thanks of the entire cotton manufacturing community are due, for saving it from the disastrous results which would have followed on the enactment of the Wilson bill containing the original cotton schedule. It emphasizes more than ever the value of associations, especially when at the head of these associations are earnest and enthusiastic gentlemen who are willing to give their time and best efforts to the general interests of the industries with which they are connected.

The Sugar Schedule and the Tariff.

It has been generally acknowledged by the leaders of both parties that the ultimate fate of the Tariff Bill in the Senate hinged on the adoption of the sugar schedule as proposed in the Gorman compromise bill.

About this schedule have centred the scandals which are now under investigation by the Senate special committee. Serious charges have been made, and it would have seemed only just and proper that the report of the committee should have been waited before the vote was taken on this schedule. Such was not the case however, and the sugar schedule was adopted by a small majority, and if the assertions of the Democratic leaders of the Senate are well founded, it is possible that the final vote on the entire Tariff Bill may be taken in the Senate this month. The textile schedules are under consideration at time of writing.

What its fate may be in the House of Representitives is largely a matter of conjecture. The Democratic party in the House is between "the devil and the deep sea."

If the Senate amendments in regard to the sugar schedules are rejected by the House, there is serious doubt whether the Senate would concur in such a revision, and at any rate, there would be another prolonged wrangle which might extend perilously near the November elections, and would involve them in hopeless defeat, through their neglect to redeem the pledges of their platform. On the other hand, if the House *does* accept the Senate's bill as a compromise, and the best that can be done under the circumstances, they are in almost an equally bad predicament for openly submitting to the dictations of this great monopoly.

The amendment that was adopted by the Senate, that the new sugar schedule should not take effect until Jan. 1st, knocks away any remaining support there might be to the argument that the sugar tax was a necessity for purposes of revenue, for the exigencies of the government demand a prompt re-inforcement of the treasury funds, and yet at the command of the sugar trust the Democratic party consents to postpone the sugar duties to Jan. 1st, 1895, thus allowing an entire crop to be brought in under the present schedule free of duty, which is estimated to mean an added profit of from $30,000,000. to $40,000,000 to the sugar trust. If the party were honest in their professions, they would not permit such an amendment to pass, thus depriving the Government of an immense sum of money on the sugar imports, at a time when it is more urgently needed than ever.

Between the horns of such a dilemma the fate of the bill in the House of Representitives is extremely problematical. We incline to the belief however, that the Democratic majority will take the ground that any action is better than none.

Alas for the textile industries, however! They have been made the scapegoat of the entire system of protected industries, and in the bitterness of spirit with which the House of Representatives will receive the revised and mutilated Wilson bill from the hands of the Senate, there is very little ground to hope for much improvement in the textile schedules during its consideration in the lower branch of Congress.

Figuring the Cost of Goods.

It is safe to say that there are not half a dozen woolen mills in the country which adopt the same system of figuring the cost of goods. Almost every manufacturer and superintendent has his own method, which he considers to be the best one. It is a most difficult subject and we have many times heard it asserted that it was next to impossible to do more than approximately figure the cost per yard of woolen fabrics. We have heard mill men say that perhaps it could be done in the case of a mill making a standard line of goods of one grade, but they would assure us that where a mill wa

making a great variety of patterns and styles, no man living could figure out exactly how much each style would cost per yard. Our opinion is however, that it is more nearly possible, even in such cases, than most agents and superintendents would admit.

We are going to see times of very close figuring in the woolen industry from now on. The days of rule-of-thumb methods are past, never to be revived again in this country. The margins of profit are reduced to a minimum, and nothing but close figuring and scientific manufacturing will show a balance on the right side of the ledger. Foreign manufacturers have got down to this basis, and that is one secret of their success. We must come to it. In the cotton industry we have come to it to a great extent, and in almost every line of cotton fabrics the manager can tell to a small fraction of a cent what his goods are costing. The woolen manufacturer who can tell exactly what he can make a certain line of goods for per yard, without waiting until the end of the year to figure up the results, is the one who is coming out ahead. The superintendents who can do this will be in demand.

There always has been and probably always will be a certain portion of the manufacturiug community who are disposed to sneer at scientific methods, technical school training, etc. It is gratifying to note that of late years these men are falling still more into a minority. As we outgrow the prejudices of the past, and the conditions of the present are so antagomistic to large profits and loose methods, we need more technical schools and more scientific methods of manufacturing in the woolen industry.

Style Suggestions.

The present indications all tend towards a very late light weight season, and it is doubtful if any samples will be shown before the first of August.

The uncertainty of the tariff schedule is one of the principal causes of this backward season.

The cold spring has also had a tendency to make the opening later, for retailers are not doing a brisk business in light weights as yet, and the wholesale buyer has to regulate himself accordingly in his purchases.

One of the biggest selling things in fine worsteds, and which will be in demand this season, is a fine hair line; this hair line should be made by weaving the fabrics on a three harness twill; wo up and one down. The dressing to be 2 dark, 1 light, in both warp and filling. These samples should be woven with light colored lines and dark grounds, principally black.

In worsteds the neat effects in greys and grayish blues will be the best sellers, and some wide stripes, the stripes being formed by the weave, should be introduced in the line, as there will be a call for wider effects in fine trouserings.

Saxony finish goods are coming into extensive use, and in this class of goods the colors should be light and medium; the principal object to be obtained in making these goods is to make a firm well felted fabric. The styles can be a little more decided as they will sell in in this fabric.

Velvours are coming into style and they will be in demand. The styles should be mainly in dark colors using black and dark blue ground exclusively. These goods can be made in a great variety of styles, and the widest plaid effects will sell, as they will be used for children's suits.

Serges, black and blue such as those made by the Wauskuck and Washington Mills Co. will sell readily, as there is a place in the market for cheap fabrics of this character, if they are made firm. Weight should be about twelve ounces.

Straws of Encouragement.

The yarn manufacturers are finding the knitting trade their best customers at present. There seems to be more life in this branch than any other. The news reports too, give evidence of revival of business. Many of the mills which have been shut down for a long time are starting up, and a number are running full time which have hitherto been on shorter hours. We note a few instances of mills running over time.

Another straw which indicates that the wind has changed to a better quarter, is the fact that all the Rockville woolen mills are started up and running full time. It was only a few months ago that Rockville manufacturers were in the depths of woe, and this change for the better is a hopeful sign.

Several manufacturers of engines and boilers inform whom we have talked recently inform us that there has been a noticeable increase in the number of inquiries about cost of new plants, and they feel that, from the general look of things, there is a great deal of business in their line in prospect. This branch of trade is a very good barometer of general business feeling, for if new motive power is required, it usually means increase of manufacturing facilities all along the line, and shows that manufacturers are preparing for a better business than they have had in the past year.

In Times of Peace Prepare for War.

This maxim might be transposed for the manufacturing community to read "In times of depression prepare for activity."

It takes a good deal of courage, in the face of falling market and continued depression, to put one's hand deep down into the pocket for the necessary funds to bring the plant up to date in the line of modern equipment, but the manufacturer who has done this will certainly reap the benefit when business improves, for it is even harder when every available bit of machinery is running to its full capacity to stop work for the time necessary to make needed improvements and repairs. Courage, however, is one of the elements of success, and a manufacturer who is lacking in that quality is likely to be stranded at some time.

It has shown by experience that almost every period of prosperity in the textile industry has brought about activity in mill building and extension. These improvements are usually completed just about the time when the period of prosperity comes to an end, with consequently much disappointment to all concerned. The older plants suffer, for the reason that in the times of depression the modern plants with latest equipment can bring their cost down to a lower figure, and are thus in better position to take orders.

If the improvements could be made when business was dull, all would then be in position to take advantage of the good times when they came, and better able to contend with the poor times in their turn. The cost of labor is now on a lower plane, and there never was a time when the price of machinery and supplies was lower than at present. We feel that we are giving sound advice to manufacturers to urge that all those who have not already done so, should improve the few months of comparative dullness that may yet remain before business picks up again, to overhaul their machinery.

Knit Goods Directory.

We have received from the publishers, the Textile Record Co., New England office 186 Devonshire St., Boston, a copy of the American Directory of Hosiery and Knit Goods Manufacturers of the United States and Canada. This directory is compiled with apparent care and effort to make this special line as thoroughly represented as possible. Aside from the directory of the knit goods manufacturers will be found numerous tables of interest, and other items of valuable information for those seeking to deal directly with the knitting industry. The price of this directory is $2, and it will be forwarded on receipt of that amount from this office, or by addressing the publishers direct.

—The Globe Yarn Mills Nos. 1, 2 and 3 are running in full, and selling their large production of yarns. The Sanford Spinning Co. is al-o running in full, and disposing of its production of fancy hosiery yarns, both colors and mixtures. We understand that these two mills have been running in full for the past three mouths.

The Wool Market.

BOSTON, JUNE 9, 1894.

On the whole the past month has been one of the quietest on record, the volume of business growing less each week. Mills are buying small lots to patch out orders and, outside of this retail trade, ttle as been done or could be, owing to small stocks. Consignments are coming forward slowly. Reports of purchases for manufacture are current, and it is indeed true that some of the larger concerns have taken hold to a certain extent.

There is no telling where prices might go was there a larger supply of wool on the market; as it is, with the small supply visible, prices on some lines have eased off 2 to 3 cents per pound.

Even at the present low basis of prices in the instance of medium wools, which on a course basis are below or at the very least on par with English and Irish wools of same character, dealers are not disposed to take on very much, as there appears every prospect of a dull summer and they believe prices may be forced still lower before the tariff question is settled.

Delaine wools are in very small supply and consequently firm at quotations, 24 cents to 25 cents for Ohio and Pennsylvania, and 22 cents to 22 1-2 for Michigan. It is in this class of wools together with fine fleeces that a sharp decline will come under free wool. Shearing has begun in these sections and the prices have been started in Ohio section at 20 cents.

XX Fleeces are quoted at 22 cents, X Michigan at 18 to 19 cents.

But little of the new clip of medium unwashed fleece has reached this market as yet, and the supply of the old wool is particularly *nil*, but, in spite of this, prices are quotably lower. From the best sections of Indiana, 1-4 to 3-8 combing and clothing, with discount wools out, can be landed in Boston at 15 3-4 cents. Kentucky 1-4 combing is offered freely from interior points at 19 cents with few takers. Common and Braid out of the same section can be laid down at 16 1-2 to 17 cents.

Georgia wools are offered freely at 15 1-2 cents landed.

Mission 1-4 combing is offered at 16 1-2.

About the only things in Territory wools that sells readily are the piles which contain staple, and these have been moved to some extent on a 38 cent basis. 35 cents is about market for Fine and Fine Medium of ordinary staple, although some claim they can buy these wools on a 30 cent basis, but at present this is considered "Moonshine."

Pulled wools have had some attention, good staple and fair quality for mixes. B Supers are well sold up, the cheviot mills being about the only ones intrusted; 28 to 30 cents is about the range.

Australian wools have had, considering conditions, a very fair percentage of attention and more of a movement than has been generally reported. The demand has been worthy of the fine grades and the business has been done at a bonded price and not for immediate consumption.

There has been a small business done in Australian lambs with the knitters. The London sales closed a little off from opening rates.

The outlook for the the next few months, or until the Tariff is settled, is not very bright for much business in this line. Some mills already talk of a shut down until things become more encouraging, and this has been done in not a few cases. Although there is no doubt but that there lurks somewhere in the future business enough to start idle machinery, which manufacturers will be ready to take advantage of if it comes before all are obliged to sell out, there is little encouragement being received in the way of duplicate orders, and until a surer basis than that which is now supposed to exist is established the curtailment will continue.

—The Warren Woolen Co., of Stafford Springs, Ct., have put in one of the Parks & Woolson Machine Co.'s combination napper and gig.

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George W. Gregory, in November, 1874, resigned his position as Principal Examiner U. S. Patent Office to enter the firm.

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HOPEDALE, Mass., January 25, 1893.

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Researches made in American and foreign works to determine the validity and utility of inventions. Reports and arguments furnished in patent litigation.

United States and foreign PATENTS, DESIGNS, and TRADE MARKS procured.

Office, Butler Exchange, PROVIDENCE, R. I.

CHAS. F. BROWN, Patent and Mechanical Expert. ARTHUR W. CROSSLEY, Late Examiner U. S. Patent Office.

WRIGHT, BROWN & CROSSLEY,

(Successors to Wright & Brown.)

SOLICITORS OF U. S. AND FOREIGN **PATENTS,**

Exchange Building, 53 State St., Boston, Mass., Rooms 835, 836, 837 and 838.

Established 1867. Unexcelled facilities for prompt and efficient work.

Branch office, Atlantic Building, Washington, D. C. Telephone "Boston 986." Cable address, Wrossley, Boston.

BOSTON, January 17, 1890.

Messrs. Wright, Brown & Crossley, and their predecessors have attended to our patent business since 1867, to the full satisfaction of the company. NATIONAL TUBE WORKS CO.

By WM. S. EMERY, Treas.

BOSTON, January 17, 1890.

Messrs. Wright & Brown, and Wright, Brown & Crossley, have been our patent solicitors since 1874.

AMERICAN WALTHAM WATCH CO.

By ROYAL E. ROBBINS, Treas.

Experts in Textiles and Textile Machinery.

EDWIN PLANTA,

SOLICITOR OF PATENTS

American and Foreign.

Office, No. 27 School St.,

Room 30. BOSTON

The Cotton Market.

New York, June 9, 1894.

The demand for spot cotton improved considerably during the first days of June, and the market lately has been ruling more steady. The takings of Great Britain and the Continent are now fully normal.

The stocks in Europe according to the reports of the first of the month were larger than at this time last year by about 55,000 bales, that is all varieties.

On the first of the month the total visible supply was 3,326,641 bales, less than 100,000 below the visible supply at this time last year.

The total visible supply of American cotton was 2,735,441 bales as compared with 2,774,603, June 1, of last year.

On the first of the month the Liverpool, the Continental, and the stocks afloat for Europe, were greater in each case and in the aggregate over June 1, 1893. This shows that Liverpool and Europe has not been quite as backward as it was generally believed, and in fact the conditions promise a continuation of the present tone of the market, which is steady, neither dull nor fluctuating, nor inclined to advance.

There certainly are many signs of a resumption in business, in some cases of almost a complete return to normal conditions, in spite of the extreme dullness of the print cloth and of the textile line.

We believe that trade has shown some improvement during May and is now even still more on the mend. In our news columns we are reporting many more mills resuming operations in every branch of the textile manufacturing, and particularly in the cotton line.

It is safe to say that more than 85 per cent. of the cotton spindles are running full time and of the rest not all are idle.

Whether the passage of the Tariff bill will finally bring about improved conditions or not, yet its enactment will furnish a basis for establishing prices, and that is something.

It is too early to talk definitely about the growing crop. There are no indications however of a reduction in acreage.

The takings of Europe are greater than last year; total visible supply less than at this time last year; growing crop in a condition to practically not figure on at all; the Tariff question nearing a settlement; prices adjusting themselves to it, business slowly improving; cotton mills on both sides of the water on better time; these are the principal features of a condition of things that may be summed up by saying the market is improving and is steady. In Liverpool, middling uplands quoted at $4\frac{5}{16}$d. At home middling middling upland $7\frac{7}{16}$ cts. Gulf $7\frac{1}{2}$ cts.

Egyptians have been dull on American side, but more in demand abroad. Peruvian ditto.

PRINT CLOTHS.

Print cloths are the one dark spot on the cotton goods trade. Print cloths and printed fabrics are very much alike. The production has been steadily piling up, both in Fall River and in Providence. Prices have not all through the month been at what manufacturers could sell at and get back their money, with the result that the stock on hand is over 1,000,000 pieces. (Fall River and Providence).

Textile Patents.

The usual monthly list of Textile Patents granted will be found on page 23.

New Machinery and Processes Coming on the Market.

Items for this department are inserted without regard for advertising patronage or money consideration. We want them as news, and any one sending such particulars will confer a favor on the editors. The statements made are claims, and must not be understood as officially endorsed by the editors.

Automatic Weaving. The Draper Automatic Loom is soon to be placed upon the market. We are not yet prepared to give any full description of this revolution in weaving, but hope to show illustrations and give full descriptions in a few months, or as early as such information is ready for publication.

Cord and Thread Plating Machine. The Foster Machine Co., Westfield, Mass., have just perfected a device in connection with their twister and cone winding machine, whereby they wind silk, wool, worsted or any high grade material around a cheaper or a stronger central thread or wire, and also cone the perfected cord, yarn or thread, all in one operation. This machine is extremely simple, and consists of simply running the central thread through the hollow spindle of their new twisting and coning machine.

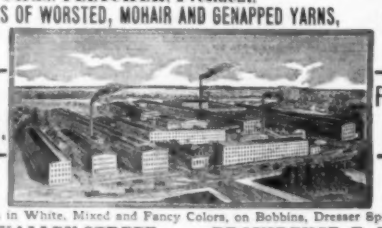
Three Quarter Automatic Seamless Hosiery Machine Attachment. The American Knitting Mill Supply Co., 523 Arch St., Philadelphia, are introducing a three quarter automatic attachment for seamless hosiery machines. This is an improvement on the half antomatic attachment previously introduced and still sold by them.

Twine Holder. The W. Warren Thread Works have taken out a patent for a new twine holder, by which a cone containing from two to five pounds of yarn is placed in a skeleton holder, the twine is threaded properly through eyes, and a little weight attached, so that when the end is pulled down the twine draws perfectly and easily from the cone, and upon breaking the twine or letting go of the end, the weight which has been drawn to the top of the holder, immediately falls to the bottom, a distance of one foot, thus pulling up the end of the twine two feet, to take it out of the way of the user. This is the most perfect thing we have ever seen for a twine holder, and possesses great advantages as compared with any system of using small two to four inch balls of twine, as besides the advantage of not requiring the frequent renewal of supply, the end being taken out of the way so perfectly and automatically is a decided convenience

Knitting Machine and Electric Motor W. Stafford & Co., Little Falls, N. Y. are bringing out a combination of their knitting machine with electric motor directly connected, thus doing away with the necessity of any belting in the knitting room, while it will readily be appreciated that with electricity as a motive power, a most perfect system of stop motion can be applied.

Branson Semi-Automatic Knitting Machine. In the columns of our knitting department we describe at length the new Branson semi-automatic knitting machine, which although semi-automatic in name, is with the exception of two motions, practically automatic. In point of speed, production of perfect work, ease of operation and simplicity of detail, this machine has great merits. It is built by the Branson Machine Co., 506 St. John St., Philadelphia, Pa.

Improved Rotary Press. The Miller Press & Machine Co., Woonsocket, R. I. are bringing out an improved 1894 model of their rotary cloth press, in which several perfected improvements have been made.

NATIONAL AND PROVIDENCE WORSTED MILLS
CHAS. FLETCHER, President.
MANUFACTURERS OF WORSTED, MOHAIR AND GENAPPED YARNS, SPUN ON THE
ENGLISH SYSTEM.

FRENCH SYSTEM.
Worsted Yarns in White, Mixed and Fancy Colors, on Bobbins, Dresser Spools and Skeins.
VALLEY STREET, PROVIDENCE, R. I.

ALLEGHENY WORSTED MILLS,
Wolstenholme, Harrigan, & Clarke, MANFRS. OF

Worsted YARNS,
ALL NUMBERS SINGLE AND TWO-PLY,
Sell Direct,
on Cop or in Skein, for Weaving and Knitting Purposes, in White, Natural & Fancy Mixes.
Office and Mills: Alleghney and Trenton Avenues, Phila., Pa.

CRANSTON WORSTED MILLS
CHARLES B. ROCKWELL, Treasurer, . . Manufacturers of
Mohair and Worsted Yarns, Rovings, Fancy Yarns, Worsted and Mohair Tops, also Commission Combing.
DYERS OF YARNS AND SLUBBING FOR THE TRADE.
BRISTOL, R. I.

VALLEY WORSTED MILLS,
PROVIDENCE, R. I.
Spinners of Worsted Yarns.
For Coatings, Dress Goods, Jersey, and Knitting Purposes.
Dyed to Order in all Colors.

CHAUTAUQUA WORSTED MILLS
Medium and Fine Grade Fancy, Weaving and Knitting Yarns.
GOODWILL & ASHWORTH, Jamestown, N. Y.

WILSON H. BROWN & BRO.,
MANUFACTURERS OF
FANCY WOOLEN and MERINO Knitting YARNS & Weaving.
GERMANTOWN, PA.
Salesroom, - 240 Chestnut St., Philadelphia.

Gorham Rogers & Co.,
— IMPORTERS OF —
BURLAPS
20 Federal Street, Boston.

GUERIN SPINNING CO.
JOS. GUERIN, Agent
Custom Spinning of Woolen and Merino Yarns of all descriptions (specially in fine numbers) spun according to the Belgian system.
92 South Main St., - Woonsocket, R. I.

ABEGG & RUSCH,
WORSTED YARNS
Dry Spun. Nos. 36s to 100s.
COTTON YARNS
Nos. 12s to 120s.
92 GRAND ST., NEW YORK.

BELGIAN SYSTEM.
RIVER SPINNING CO.,
WOONSOCKET, R. I.
Woolen, Merino and Cotton Yarns. Fine Yarns a Specialty, for Coatings, Suitings, Dress Goods and Flannels, in White, Solid Colors and Mixtures.
JOHNSTON & FARIE, 132 South 3d St., Philadelphia.

HENRY C. FOX,
Commission Merchant.
Dealer in odd and end lots of
COTTON, WOOLEN AND WORSTED YARNS,
No. 45 Strawberry St., Philadelphia.

CHAS. J. WEBB & CO.,
Foreign and Domestic
WOOL, HAIR and NOILS,
142, 144 & 152 to 156 N. Front St.,
PHILADELPHIA PA.

WEAVING and HOSIERY YARNS.
We Buy for Cash
WARPS, COPS, TWIST and SOFT SKEINS, Single, Double, 3-ply, 4-ply, etc.
COLORED YARNS for HOSIERY
on Cones, a Specialty.
Correspondence Solicited.
Winterbottom, Hyde & Co., 21 and 23 Chestnut Street, PHILADELPHIA, PA.

YARNS
SOLIS - - BOSTON.
179 Devonshire Street.
ANDREW J. SOLIS, Jr. & CO.

WM. MASON MFG. CO.,
SPINNERS OF HOSIERY AND THREAD YARNS
J. H. HAMBLY, Treas. and Selling Agent, PROVIDENCE, R. I.

Littlefield Manufacturing Co.
K. K. HOSIERY YARNS, COPS, CONES & SKEINS.
Threads for Spooling. Single and Double Yarns for Silk, Woolen or Cotton Goods.
PAWTUCKET, R. I.

The Eastern Yarn Market.

Double and Single Roving White Cop Yarn. Trade is very dull, and few orders are being placed. What business there is moving is from the hosiery trade, and mostly on the cheapest and poorest class of yarn. The knitters are getting few orders, and are doing very little buying. We note a better inquiry for yarns. Knitters on heavy weights will start up within a month, but will make no stocks until very near time for delivery.

The rubber boot lining trade will soon be on, and that will help out. The web trade is in a demoralized condition. Salesmen have been getting no orders, and mills are shutting down. Spinners are running, but chances are that many will have to shut down if a change is not for the better very soon. A demand to a limited extent is noted for 12-3 ply and 8-3 ply.

Colored Yarns. We note a fair inquiry for colored yarn. Jaeger will continue in demand, although the prices are off. The hosiery trade is placing orders for colored yarns. Some mills which had been running well have turned entire attention to this class of stock.

Combed Egyptian and Allen Seed. Spinners are getting few orders for yarns, and at prices that are very low. The demand for light weight yarns continues, and the chances are that as soon as we have any hot weather the demand will improve, from the fact that no stocks are in the hands of the retailers or jobbers.

A great many sweaters are being made out of combed Egyptian, from 9s to 10s, and quite a trade is being worked up on it. The fleece lined underwear trade is requiring considerable fine combed yarn, both in Allen seed and Egyptian, also the rubber boot lining trade is using considerable of these stocks. The hosiery trade is buying 2/24s, 2/40s and single 22s Allen seed and Egyptian. The heavy weight season is soon going to require Egyptian yarn. Spinners are not running over time, but we believe will continue to do a dragging business.

WOOLEN YARNS.

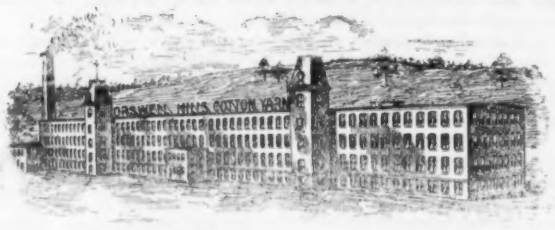
Spinners are getting orders at this time, although few are being placed by the hosiery or underwear trade. There continues to be a demand from weavers, but it is limited at this time. The lining trade is calling for some yarn. Prices are very low, and orders when placed are limited. Later we may expect better demand for hosiery and underwear.

WORSTED YARNS.

Spinners are busy with orders for immediate delivery. Prices range low, with a low tendency. Orders are all placed for actual requirements, and it is impossible to know when the demand will stop. It is strange the way the market is working. Some of the largest and best mills are getting the fewest orders, while other mills with no reputation have more orders than they can handle. The demand for dress goods yarns continues good, and the prospects are that the demand will keep on for some time. Men's wear is not doing so well, although mills running lines are well employed.

There is a feature in the textile situation that manufacturers will do well to keep in mind, and that is, the number of mills that have gone out of business. We think we are not far out in stating that from 10 to 20 reputable mills have either failed, gone into liquidation, or are shut down waiting developments. There is a certain demand for goods, and those who have had the courage to keep on will surely reap the benefit of a demand which is growing every day.

Orders are still being placed for heavy weights, although in small quantities. There is no doubt that the heavy weight season will lap over into the light weight. The outlook for light weights is good. None were made last light weight season, and there is every reason to expect a fair demand will be the result this season, and again there are mills who are not going to get out any light weight samples, and this reduced production is going to give the market to comparatively few mills. Meantime, spinners are working along, and have all the orders they want at present. We look for a

CAPACITY, 50,000 Spindles. ORSWELL MILLS FITCHBURG MASS.


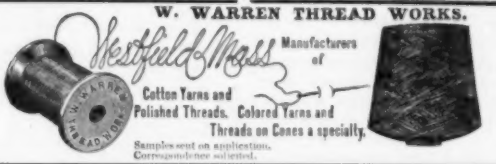
COMBED OR CARDED
COTTON YARNS
In Chains and Skeins, on Balls, Beams, Spools—single or twisted.

Colored Cotton COP YARNS
Solid Colors and Mixtures,
Spun from Colored Cotton For Knitters and Weavers.
FAST BLACK A SPECIALTY.
Camels Hair Mixes, Jaeger Mixes and Balbriggans.
E. JENCKES MFG. CO., Pawtucket R. I.

KERR THREAD CO.
—SPINNERS OF—
Fine Combed Sea Island COP SINGLES
All Numbers, 30s to 150s.
Fall River, Mass.

EDDY & STREET,
YARNS.
Silk and Cotton Braids for Underwear trade. Embroidery and Knitting Silks.
6 So. Water St., PROVIDENCE, R. I.

GRANT YARN CO.,
COMBED AND CARDED COTTON
YARNS AND WARPS
40s and above.
FITCHBURG, MASS.

W. WARREN THREAD WORKS.


Manufacturers of
Cotton Yarns and Polished Threads. Colored Yarns and Threads on Cones a specialty.
Samples sent on application. Correspondence solicited.

JAS. CHADWICK & BRO.
Limited.
Egyptian and Sea Island COTTON YARNS.
COP, SKEIN, WARP, OR CONE. 20'S TO 150'S.
ALSO FULL LINE OF IMPORTED YARNS, 40s TO 200s.
503 Broome St., NEW YORK. Branch Office, 241 Chestnut St., Phila.

O. H. SAMPSON & CO,
YARNS,
BOSTON, 67 Chauncy St.
NEW YORK, 58 & 60 Worth St.
PHILA. 206 Chestnut St.

J. H. LANE & CO.,
Commission Merchants.
COTTON and JUTE YARNS
110 Worth St., NEW YORK.
24 Kingston St., BOSTON.
151-53 Fifth Ave., CHICAGO.

JAMES E. MITCHELL & CO.,
Commission Merchants.
122 & 124 Chestnut St., Philadelphia, Pa.
51 & 53 Summer St., Boston.
Cotton, Woolen & Worsted Yarns.
All numbers on Hand and Made to Order.

ALEX'R KING & CO.
YARNS.
FINE IMPORTED YARNS A SPECIALTY.
54 Leonard St., New York.

SAWYER, MANNING & CO.,
YARNS,
86 & 88 Franklin St., NEW YORK.

TILLINGHAST, STILES & CO.
COTTON YARNS
ALL NUMBERS.
Chain Warps, Skeins, Cops, Cones, Beams, Spools, Colored and Grey Yarns. Hosiery and Combed Yarns.
20 Market Square, Room 53. Providence, R. I.

C. MOORE & CO.,
MANUFACTURERS OF
TWINES, THREADS AND YARNS
Jacquard Harness Twines of all kinds on hand and made to order.
12 SOUTH FIFTH STREET
Philadelphia.

TUCKER & COOK MFG. CO
MANUFACTURERS OF
WHITE AND COLORED COTTON WARPS
Nos. 6s to 30s,
On Beams, Jack Spools or in Chains.
CONWAY, MASS.

RICHARD A. BLYTHE,
Fine Nos. a Specialty, 20's to 150's. Carpet Yarns and Warps, 4's to 20's.
Cotton Warps and Yarns,
114 Chestnut St., Philadelphia, Penn.

Cotton Yarns AND WARPS Of Every Description.
James F. White & Co.
COMMISSION MERCHANTS,
54 and 56 Worth St., NEW YORK.
228 Chestnut St., PHILADELPHIA.
BURLAPS all WIDTHS and WEIGHTS.

COTTON YARNS
2s TO 40s
For WEAVING AND KNITTING.
WHITTIER COTTON MILLS,
LOWELL, MASS.

Combined Capital Stock, $2,000,000.00. Total Spindles, 140,000.
WM. D. HOWLAND, TREAS. BYRON F. CARD, AGT.

NEW BEDFORD MFG. CO.,
HOWLAND MILLS CORP'N,
ROTCH SPINNING CORP'N.

Single or Twisted, Combed or Carded.
Hosiery Yarns, Chain Warps, Skeins, Spools or Cops, also on Beams from Nos. 10's to 100's.

HIGH GRADE COTTON YARNS.

J. MULLINEAUX, JR., Phila. Agt., 215 Chestnut St.
Byron F. Card, Selling Agent,
NEW BEDFORD, MASS.

GLOBE YARN MILLS — 1881 — FALL RIVER MASS.

Capital $1,200.000. 100,000 SPINDLES. Weekly product 120,000 lbs. 14's to 100's.

COTTON YARNS
Superior Qualities
SPECIALLY ADAPTED FOR
Silk, Plush, Upholstery and Hosiery
MANUFACTURERS.
American Peelers. ✣ Sea Island. ✣ Egyptian Cottons.
Superior Qualities Combed & Carded — Furnished in singles, 2, 3, 4 & 6 ply chain warps, skeins, beams, spools, tubes, cones & Lisle Thread yarns.
COPS FOR WEAVING & TWISTING. COPS FOR HOSIERY.
Arnold B. Sanford, - - Treasurer.

TRADE MARK.

Arnold B. Sanford, Pres. Arthur H. Mason, Treas
Capital Stock, $400,000.
Sanford Spinning Co.
Fall River, Mass.
30,000 Spindles. Weekly Product, 50,000 pounds 14s to 40s.
Novelty Cotton Yarns
From American Peelers and Egyptian Cottons.
OUR SPECIALTY: Superior qualities of Hosiery Yarns, Natural Shades of Cottons, and in Colors, Jaegers, Mixes and Bleached, Hosiery Cops on Long Tubes, Skeins, Tubes, Cones and Lisle Thread Yarns. Furnished in Carded and Combed Qualities in Singles, 2, 3 and 4 plies.

Hosiery AND Weaving Yarn
ALBERT IVINS GROLL,
BOSTON.

GREENE & DANIELS MFG. CO.,
Combed and Carded
Yarns, Threads, Twines and Chain Warps,
Furnished in any manner desired by the trade.
PAWTUCKET, R. I.

HADLEY SPOOL COTTON AND FINE YARNS COMPANY
COTTON SPINNERS.
MILLS AT HOLYOKE, MASS.
SPINNERS OF
FINE COTTON YARNS
30s TO 100s.
Gray, Bleached, or Colored. On cop, in skein on spools, cones or tubes.
Fine Cotton Warps, single and two-ply, in chain, etc.
95 Milk Street, BOSTON.

Wilkes-Barre Lace Mfg Co.
SPINNERS OF
COTTON YARNS.
Double-Carded, Frame-Spun,
Double-Roving, In Skeins.
30s TO 40s, TWO-PLY ONLY.
Wilkes-Barre, Pa.

THE WILLIAM CLARK COMPANY,
WESTERLY, R. I.
Mills equipped with the latest and most improved machinery.
Combed Egyptian from No. 20s to 100s. Combed Sea Island from No. 40s to 200s.
Also 2, 3, 4, 5 ply and 6, 9 and 12 ply cable laid.
Hosiery Yarns on Cops, Tubes or in Skeins, Grey, Bleached or Dyed. (Fast Colors.)

FLEMING & CHAPIN,
YARNS, THREADS, TAPES, BRAIDS,
15 Church St., Philadelphia, Pa.

C. M. BLAISDELL, Pres. and Treas. G. A. BLAISDELL, Vice Pres. E. J. CARRIGAN, Sec.
Established 1860.—Incorporated 1893.
THE S. BLAISDELL JR., CO.,
Egyptian COTTON Peruvian
American Long Staple a Specialty. and all American Southern points.
Shipments direct to mill from Egypt, Peru
CHICOPEE, MASS.

EGYPTIAN COTTON
HERMAN CAPELLE,
Rothschild Building, Cor. Leonard St. & W. Broadway
NEW YORK.
H. BINDERNAGEL Alexandria, Egypt.

demand for finer counts and finer qualities of yarn next season. The demand for dress goods is in 2/30s and single 18s. The Rockville mills are running full. We quote as follows:

DOUBLE ROVING WHITE COP YARN.

11s and 12s	16 cts.
16s	17 cts.
20s	18 cts.
Jaeger and Camels Hair, 10s to 12s	18 cts.

Cones 1 cent extra.
Other colors quoted on application.

Egyptian Combed.

1/10s to 12s	21 to 22 cts.
1/20s	23 cts.
1/34s	32 cts.
1/40s	36 cts.
1/45s to 1/50s	38 cts.

Cones extra price.

ALLEN SEED COMBED.

1/10s	23 to 24 cts.
1/40s	35 cts.
2/40s	37 to 38 cts.

WOOLEN YARN.

Will quote on inquiry, as there is too great diversity to give satisfactory quotation.

WORSTED YARN.

Fine Australian.

2/24s	.90 cts.
2/40s	.95
2/50s	1.00
2/60s	1.15

Australian.

2/24s	.80
2/40s	.90
2/50s	.95
2/60s	1.10

Better than half-blood Australian.

2/30s	.75
2/40s	.85
2/50s	.95

Half-blood Domestic.

2/40s	.70

DOMESTIC.

1/4 Blood, 2/28s, 24s, 18s	56 cts.
2/32s	57 cts.
3/8 Blood, 2/32s	60 cts.
2/28s, 24s	60 cts.
1/2 Blood, 2/22s, 28s	62 cts.

The Philadelphia Yarn Market.

PHILADELPHIA, June 9, 1894.

While prices are still very much depressed, there is a disposition amongst spinners to stand for better figures than they have been getting This can only be maintained in a slow way, but it has become necessary, as many yarns have been sold below cost, and many spinners have turned off staple numbers whenever they were able to get regular orders, for which they can always get a little more money. This will reduce the stock of staple goods, and relieve the pressure to sell. We quote:

WARPS.

20/1	12½ to 13 cts.
22/1	13 to 13½ cts.
26/1	13¾ cts.
20/2	13½ to 14 cts.
12/2	13 cts.
30/2	19 to 20 cts.

SKEIN.

26/1	13 cts.
20/1	13 "
19/1 soft	13 to 13½ cts.
4s to 8s soft	12 cts.
10s to 12s hard	11½ to 12 cts.
10s to 12s soft	12 to 12½ cts.
14s hard	12 cts.
14s soft	13 to 13½ cts.
14/2 hard	12 to 12½ cts.
20/2	13½ cts.

SOUTHERN CONES.

6s to 8s	12½ to 13 cts.
10s	13 to 13½ cts.
12s	13½ cts.
16s	15½ cts.

SOUTHERN COPS.

6s to 8s	12 to 12½ cts.
10s to 12s	12½ to 13 cts.
16s	14¼ cts.

MIXED COLORED CONES.

6s to 8s	15½ to 16 cts.
10 to 12s	16½ to 17 "
15s	17 to 17½ "

SKEINS.

8/3 Carpet Chain	11½ to 12 cts.
60-yd double reel	7½ to 8 cts.
8/3 slack reeled	12 cts.
9/4 slack reeled	12 "
10s double reeled	12 "
16/3 slack reeled	14 cts.

EASTERN COPS.

26s shuttle	15 cts.
40s "	18½ "
10s to 12s hosiery	15 "
14s	15½ "
16s	15½ "
20s	17½ to 18 cts.
24s	18½ to 19 cts.
30s	21 to 22 "

Eastern Cones 1 ct. to 1 1-2 ct. extra.
Skein 1 2 ct. above cops.

Egyptian Cotton 2 1-2 to 3 ct. above white.

Woolen, merino and worsted yarns in fair demand, at former or slightly lower rates.

The Way it Looks in Bradford.

English manufacturers find their American business in very bad shape. The figures showing the comparisons of imports at New York this year with last tell the story, while the following extract from the English Textile Mercury shows the state of affairs at the Bradford consulate.

"The American trade is still in a wretchedly depressed condition, and there are no signs of any improvement taking place until the Tariff question has been finally settled. At the American consulate, Bradford, during last week, Mr. Meeker only passed 38 invoices, and those comparatively small in amount. Under ordinary circumstances at least 300 or 400 invoices are submitted at the consultate weekly. These figures give the situation in a nutshell."

American Wool in England.

There has been a good deal of bogus capital made by the free traders out of the fact that a small shipment of 5000 pounds of American wool was made to Bradford, England, quite recently. The consul at that city reported with a great flourish of trumpets to the State Department, which made haste to publish the fact in its reports. Consul Meeker gravely announces that a part of this shipment was sold at once, and the balance held for higher prices. The English wool dealers must feel very nervous with a part of this tremendous shipment of 5000 pounds hanging over their heads, and likely to be launched at any moment on the market.

Cheney Brothers,
SILK MANUFACTURERS.
ALL KINDS OF
Knitting Silks, Ribbons AND Piece Silks
USED FOR TRIMMING KNIT GOODS.
TRAMS, ORGANZINES and SPUN SILKS, in the Hank, or on Spools or ,Cones for Manufacturers' Use. Silks for Special Purposes Made to Order.
MILLS: South Manchester and Hartford, Conn.
SALESROOMS: 477, 479, and 481 Broome Street, NEW YORK.
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CRISWOLD WORSTED CO., Ltd.
MANUFACTURERS
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SILK YARNS FOR THE HOSIERY, WEAVING AND KNITTING TRADE GENERALLY,
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WILLIAM RYLE & CO.,
DEALERS IN
Domestic Thrown Silk of every description. Fine Pure Dye Silks for the woolen trade a specialty. Foreign and domestic
SPUN SILK YARNS AND NOILS
Importers of European and Asiatic Raw Silk.
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ALFRED TAFF, Successor to H. T. Gaddum & Co.,
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SPUN SILK Yarns, Waste, Noils, etc.
69 MERCER STREET, - NEW YORK.

PHILIP WAMSLEY & CO.,
Spun Silk Yarns.
TWISTS OF ALL KINDS.
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PETER B. MCMANUS, Proprietor,
Dyers and Bleachers of Cotton Yarns,
In Skein and Warp. Works at
Pawtucket and Valley Falls. R. I.

Pawtucket Dyeing & Bleaching Co., BLEACHERS AND DYERS OF
COTTON & COTTON YARNS, STOCKINET & JERSEY CLOTH.
OFFICE WITH BLODGETT & ORSWELL CO., Manufacturers of Glazed Yarns,
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T. G. HANEY & CO., - Dyers.
FAST BLACKS
ON HOSIERY AND YARNS.
JEWETT CITY, CONN.

FAST FANCY COLORS.
We make a specialty of dyeing Mode and Tan shade on hosiery and yarns, as also all other fancy shades. Colors absolutely fast. For particulars address
OAKDALE DYE WORKS,
913 W. York St., Philadelphia, Pa.

FAIRHILL DYE WORKS,
S. W. Cor. American & York Sts.,
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Fast Black a Specialty. Cotton Hosiery Dyeing in all Colors.
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★Star Finishing Works
All kinds of cotton goods finished in the best manner, including Fine Madras Shirtings, Ginghams, Cheviots, Tickings and Cottonades. Refinishing a specialty.

BARRY, THAYER & CO.,
Cotton Commission Merchants,
32 INDIA ST., - BOSTON.
Special attention given to orders from woolen mills for high grades and Peruvians.

Ramie.

The increasing demand in this country for ramie fibre has induced Fr. Jac. Andres, the well known importer in Egyptian and Peruvian cotton, 517 John Hancock Building, Boston, to make a sample collection of yarns, which are open to the inspection of manufacturers and others interested. It includes warps, two ply, and from 24s up to 70s, in whites and colors. Mr. Andres has also samples of the raw fibre, and of the ramie noils, which he informs us mix very well with carded wool. He also has some cloth samples.

Wm. Pickhardt & Kuttroff,
B. Anilin & Soda Fabrik Sp. P.
NEW YORK. BOSTON. CHICAGO.
PHILADELPHIA. PROVIDENCE.
COAL TAR DYES and EXTRACTS.
Alizarine Dyes a Specialty.

READ HOLLIDAY & SONS, LIMITED,
No. 7 Platt St., New York,
Manufacturers of **Acid Magenta,** (Patented.)
HEADQUARTERS FOR
Aniline Dyes, Aniline Oil, Aniline Salts, Arseniate of Soda, Chlorate of Potash, Yellow Prussiate of Chemicals, Etc, Indigo, Indigo Extract, Archill Liquor, Cudbear, Picric Acid, Zink Auxiliary,
WORKS: Hudderfield, Wakefield, Rouen, FRANCE, ENGLAND, Brooklyn, N. Y.
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JOHN J. KELLER & CO., 104 MURRAY STREET, NEW YORK.
Sole Agents for JOHN R. GEIGY & CO., Basle, Switzerland
Aniline Colors, Dyewood Extracts, Etc.
Cotton Printing Specialties, Fast One-Dip Cotton Colors, Fast Wool Colors.
134 Chestnut Street, Philadelphia. Branch Houses: 153 Milk Street, Boston.

Calleine Blue
Calleine Black
NEW ONE DIP DYES. Faster than Alizarine Colors.
Produced at One-half the Cost.
F. E. ATTEAUX & CO., 172-178 PURCHASE ST., BOSTON.

E. SEHLBACH & CO.,
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16 Hamilton St. Boston. 11 North Front St. Phila. 161 Kenzie St. Chicago
Sole Importers of ALIZARINE AND ANILINE COLORS
Manufactured by
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Sole agents of the Hudson River Aniline Color Works, ALBANY, N. Y.

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Buffalo Aniline Colors.
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ANCHOR COLOR MANUF'G CO.
Importers and Manufacturers of
Alizarine and Aniline Colors, Dyestuffs, &c.
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BEACH & COMPANY,
Hartford, Conn., and 372 & 374 Atlantic Ave., Boston, Mass.
Proprietors GROVE WORKS DYEWOOD MILLS.
Agents British Alizarine Co., Brooks, Simpson & Spiller, Anilines, Edward Mucklow's Dyeing Extracts, J. R. G. Cochineal, Etc.

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Anilines and Dye Stuffs,
216 CHESTNUT ST., PHILADELPHIA, PA.

INNIS & CO.,
Manufacturers, Importers & Dealers in
DYE WOODS, DYE STUFFS AND CHEMICALS.
EXTRACTS OF LOGWOOD. FUSTIC.
Poughkeepsie Dye Wood Works, Established 1816.
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—MANUFACTURERS OF—
DYEWOODS AND EXTRACTS. LOGWOOD. FUSTIC. BARK CUTCH.

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Harway Dyewood & Extract Manufacturing Co.,
MANUFACTURERS OF
DYEWOODS, DYEWOOD EXTRACTS and LIQUORS, HAEMATINE
ONE DIP BLACK DYE, CUTCH EXTRACT.
Importers of Indigo, Cutch, Madder, Chemicals, &c.
WORKS: FLUSHING, L. I. 184 Front St., NEW YORK.

STAMFORD M'F'G CO.,
167 MAIDEN LANE, NEW YORK.
MANUFACTURERS OF
DYEWOODS and DYEWOOD EXTRACTS,
LIQUORS AND FLAVINES.
Importers of Chemicals and Dyestuffs.

BLACK DYE
MANUFACTURED BY
WM. J. MATHESON & CO., LTD.
New York, Boston, Philadelphia, and Providence.

COLORS-DYEING.

This department is under the supervision of **Mr. Edward Prag,** and communications intended for it should be addressed to him either at our

Philadelphia Office, 240 Chestnut Street, or **Laboratory,** 2220 Lambert Street, Phila.

Experimental Dye Sheet Recipes for June.

Those manufacturers or dyers among our subscribers who have not received the Dyed Sample Sheet and desire it, will please notify us.

No. 133.

Violet-Blue on Wool Yarn.
DYED WITH 1 1-2 PER CENT. ALKALI-VIOLET R, E. SEHLBACH & CO., 77 WILLIAM STREET, NEW YORK.
(100 lbs. of yarn.)

Prepare a bath containing,
1½% Alkali-Violet R.

Enter wool at 130° F., raise slowly to a boil and boil one hour. Lift, wash and dry.

Alkali-Violet R can be dyed in an acid bath, weak alkali bath, or also on a chrome bottom.

The shades obtained are fast to milling. Alkali-Violet R will combine with New Victoria Blue; if combined with the latter color, the goods should be dyed in a neutral bath.

In dissolving Alkali-Violet R, a little soda should be added to the water.

Alkali-Violet R and New Victoria Blue B should be separately dissolved.

No. 134.

Light Blue on Wool Yarn.
DYED WITH CYANOLE EXTRA, PATENTED, WM. J. MATHESON & CO., 178 FRONT STREET, NEW YORK.
(100 lbs. of yarn.)

Prepare a bath containing,
½% Cyanole Extra, patented,
10 % Bisulphate of soda.

Enter yarn at 130° F., raise slowly to a boil, boil one hour. Lift, wash and dry.

Cyanole Extra can be combined, with orange extra, authracite black B, archil substitute N, Indian yellow G. etc.; in combination with these colors. cyanole extra will produce most any shade desired.

No. 135.

Yellowish Green on Woolen Yarn.
DYED WITH CYANOLE EXTRA, PATENTED AND INDIAN YELLOW G. WM. J. MATHESON & CO., 178 FRONT STREET, NEW YORK.
(100 lbs. of yarn.)

Prepare a bath containing,
⅛% Cyanole Extra,
⅛% Indian Yellow G.
10 % Bisulphate of soda.

Enter wool at 130° F., raise slowly to a boil, boil one hour. Lift, wash and dry.

No. 136.

Blue on Woolen Yarn.
DYED WITH GALLEINE BLUE, F. E. ATTEAUX & CO., 172-178 PURCHASE STREET, BOSTON, MASS.
(100 lbs. of wool.)

Raise the temperature of the bath to 160° F.; enter wool and give a few turns, when thoroughly wetted out feed to the bath
15% Galleine Blue.

Raise temperature to a boil and boil 1 1-2 hours. Lift, wash and dry.

No. 137.

Black on Woolen Yarn.
DYED WITH GALLEINE BLACK, F. E. ATTEAUX & CO., 172-178 PURCHASE STREET, BOSTON, MASS.
(100 lbs. of wool.)

Prepare a bath containing,
1½% Soda Crystals.

Enter wool at 160° F., run wool for 15 minutes, then feed to bath
20% Galleine Black.

Raise temperature to a boil and boil two hours. Lift, wash and dry.

SCHULZE-BERGE & KOECHL,
Successors to Schulze-Berge, Koechl & Movius,
79 MURRAY ST., NEW YORK.
Sole Agents for the **ANILINE COLORS AND ALIZARINES**
Made by FARBWERKE, formerly MEISTER, LUCIUS & BRUENING, HOECHST a/M.
FAST COLORS for Wool, Yarn and Piece-Goods Dyeing, and Calico Printing.
Branch Offices: 138 Milk St., BOSTON, 39 N. Front St., PHILADELPHIA, Pa.

No. 138.

Jet Black on Woolen Yarn.
DYED WITH GALLEINE BLACK, AND FUSTIC EXTRACT, F. E. ATTEAUX & CO., 178 PURCHASE STREET, BOSTON.
(100 lbs. of yarn.)

Dye in the same way, as recipe 137, but add 1 1-2 per cent. Fustic Extact.

Galleine Blue and Black, are excellent for wool extract, and wool piece goods, the colors combine with fustic, logwood, anilines and alizarine.

To obtain good clean shades, it is necessary that the goods to be dyed should be perfectly clean before entering the same into the bath. A test of exposing the dyed yarn for 30 days to the air showed no perceptible change in color.

No 139.

Medium Dark Red on Wool Flannel.
DYED WITH BRILLIANT RED B; C. BISCHOFF & CO., 80 FRONT STREET, NEW YORK.
(100 lbs. of flannel.)

Prepare a bath containing,
3% Brilliant Red B
4% Sulphuric Acid
10% Glauber's salt.

Enter goods at 140° F., run four ends; raise temperature slowly to a boil and boil one hour. Lift, wash and dry.

No. 140.

Mode Grey on Wool Yarn.
DYED WITH NAPHTAZINE BLUE CHROMOFLAVINE D AND BRILLIANT RED W, C. BISCHOFF & CO., 80 FRONT STREET, NEW YORK.
(100 lbs. of yarn.)

Prepare a bath containing,
2% Glauber's salt
1% Sulphuric acid
½% Napthazine Blue.
1/12% Chromoflavine D
1/24% Brilliant Red W.

Enter yarn at 140° F., give 4 to 6 turns and boil until bath is exhausted; then add to the same bath 1 per cent. fluoride of chrome and boil 30 to 40 minutes longer. Lift, wash and dry.

This color is fast to fulling.

No. 141.

Black on Loose Cotton.
DYED WITH HEMOLINE X, WM. J. MATHESON & CO., 178 FRONT STREET, NEW YORK.
(100 lbs. of cotton.)

Prepare a bath containing,
20% Hemoline X
2% Faukhausine
7% Bluestone
3% Soda ash
2% Glauber's salt.

Enter cotton at boil, and boil for 1 1-2 to 2 hours, lift cotton and allow to oxidize over night, having the cotton well covered with bags.

Next morning prepare a fresh bath containing,
1½% Bichromate of potash,
2 pails of melted soap.

Enter cotton at 120° F., pole cotton at this temperature for 30 minutes, lift and wash.

For the second lot, 18 per cent. hemoline is sufficient, for the the third lot, add 12 per cent. of Hemoline X and 5 per cent. of bluestone, and the same proportion of soda ash and Glauber's salt as in first bath. For all further lots, use 8 per cent Hemolin, 4 per cent. blue stone, 3 per cent. soda ash and 2 per cent. Glauber's salt.

No. 142.

Heliotrope on Cotton.
DYED WITH HELIOTROPE 2B, NEW YORK & BOSTON DYEWOOD CO., 55 BEEKMAN STREET, NEW YORK
(100 lbs. of cotton.)

Prepare a bath containing,
20 % Glaubers salt
5 % soap
½% Heliotrope 2 B.

Enter at 140° F., give three turns, raise temperature slowly to a boil, boil one hour. Lift, wash and dry.

No.143.

Bluish Grey on Cotton Yarn.
DYED WITH NEW FAST GREY, E. SEHLBACH & CO., 77 WILLIAM STREET, NEW YORK.
(100 lbs. of cotton.)

Mordant cotton over night in,
2% Faukhausine
20% Sumac extract.

Next morning prepare a bath containing,
2½% Tartar emetic.

Work yarn 30 minutes. Lift, and wash.

Then enter yarn in a new bath containing,
2 % New Fast Grey,
1½% Acetic acid.

Enter yarn cold, work from time to time, after the yarn has been 45 minutes in the bath, raise temperature to 130° F., and dye at this temperature 15 minutes longer.

New fast grey is fairly fast to light, fast to alkali and acid.

No. 144.

Steel Bluish Grey on Cotton Flannel.
DYED WITH BLACK HW, WM. J. MATHESON & CO., 178 FRONT STREET, NEW YORK.
(100 lbs. of cotton flannel)

Prepare a bath containing,
3 % Soda
10 % Glauber's salt
1/10% Black HW.

Enter flannel at 150° F., run four ends, raise temperature to a boil and dye at the boil for one hour. Lift, wash and dry.

Roundabout Notes.

For the Textile Mfg. World.

DYEING, PRINTING, BLEACHING AND FINISHING.

C. H. Loebner's process for obtaining porcelain white on wool, consists in dissolving 1 kilo. of tin in 8 kilos. hydrochloric acid in a stone or glass vessel. The tin must be added gradually to the acid to prevent any rise of temperature and should be granulated. The solution should last over twenty-four hours. If it then remains perfectly clean and without any scum for another twenty-four hours, 4 kilos. 66 per cent. sulphuric acid diluted with its own weight of water is added and then another kilo. of tin with the same precautions as the first. This second kilo. of tin will not dissolve without the aid of heat, but it must be heated very slowly and cautiously till the solution is saturated, replacing from time to time the water lost by evaporation, as the volume of the solution must be kept constant. About 1-5 kilo. of tin will probably remain undissolved, but the important point is that the solution must be saturated with tin.

***

It is impossible to dye any wool whatever a pure white, for the white has to conceal the natural color of the wool, which it cannot do if the later is at all marked. Take the cleanest possible water, and add to it wheat bran and some of the above tin solution. After stirring, heat the water without stirring to 170°, then skim, and allow to cool to 140°. Then enter the wool, about 20 lbs. at a time, and add a little more tin solution, a little indigo carmine and a trace of persio. White wool is immersed 8 to 10 minutes, yellowish wool somewhat longer, and the temperature must not exceed 120° F.

The wool is then drained on wooden pegs, but must not touch oak or iron. The porcelain white only develops after some little time, and shows itself best after milling, a process so destructive to the whiteness produced on wool by bisulphite.

EDWARD HILL'S SON & CO.,
25 and 27 CEDAR STREET, NEW YORK,
CUTCH, OXALIC ACID, CAUSTIC POTASH,
Blue Vitriol, Carb. Potash,
Chlorate of Potash, Caustic Soda, Arsenic, Shellac, Ceylon and Cochin Cocoanut Oil.

WELCH, HOLME & CLARK CO.,
383 WEST STREET, NEW YORK,
Importers of Celebrated "Golden Fleece" Extra Refined Concentrated 98 per cent.

Powdered Caustic Soda.

J. JAECK BROS., 69-71 WYTHE AVE., BROOKLYN, N. Y.
Extracts of Indigo, Indigo Carmine, Indigotine, Refined Indigo, Dressing, Softening, Bichloride of Tin, Bisulphide of Soda.

Could Commercial Co., Successors to HENRY A. GOULD & CO. Established 1861.
Importers and Jobbers of Indigo, Cutch, Anilines; Original Makers of Black Dye, Cutch Substitute.
35 Hartford St., Boston. 78 William St., New York.

CHAS. A. JOHNSON & CO.,
Successors to J. C. Bloomfield & Co.
Dealers in
Dyestuffs & Textile Trade Supplies.
Detergent for Bleaching, a substitute for soda ash, a specialty.
14 Dey Street, New York.
29 Weybosset St., Providence, R. I.

PH. H. KARCHER & CO.,
Importers and Commission Merchants of
Dye Stuffs, Extracts, Chemicals, Etc.
14 Cedar St., - - NEW YORK.

A. B. FRENZEL, M. I., Mech. E.,
Consulting and Mechanical Engineer
Drying "in Vacuuo" Powders, Liquids and Solids. . . . . .
31 & 33 Broadway, NEW YORK.

Tartar emetic with tannin is well known to give disappointing results and so also does magnesium acetate; the places which should remain white being strongly colored, while the freshly precipitated hydrated oxide of antimony from which much was expected, turns out to be quite useless as a reserve, although the oxalate is not quite a failure Casanovas in the Berlin Farber Zeitung asserts that the following receipt will give highly satisfactory results:

Take 900 c. c. thickening made with dextrine. To this add 20 grms. gelatine mixed with 100 c. c. of water, and then 80 c. c. of aluminic, 15° B. Print, dry, pad in a slightly thickened solution of tannin, fix with tartar emetic, dye and wash.

***

Dr. C. O. Weber in the Chemiker Zeitung has been lately engaged in a very interesting discussion as to the possibility of finding an organic lake-former capable of giving as good results with benzidine colors on cotton as they can be got to give on wool. Weber has so far failed to obtain such a lake either from white of egg or serum-albumen, but conjectures that serum albumen may be found to answer. Herr Mullerus says that this conjecture is fully borne out by the facts. Having been in the habit of using blood-albumen for the purpose of getting colors fast to light with St. Denis red, he has found it very successful.

Before dyeing he impregnates the cotton in a bath containing 10 per cent. blood albumen and 10 per cent. of turkey red oil (60 per cent.), and then dyes as usual after drying. The dyebath then exhausted much better, so that the color on the cotton was fuller and brighter, and the result was faster both to light and washing. Albumen without the oil, even in greater percentage of the bath, gave inferior results.

***

Leopold Thisle calls attention to the utter untrustworthiness of testing a fabric with acid as a guide to the fastness of its color, and asserts that designing tailors take advantage of the wrong idea possessed by the public that a color which will stand the momentary application of acid will stand anything in the shape of weather. Besides, says Hurr Thiele, military departments are beginning to insist that cloth supplied to them should undergo this supposed infallible test.

Like many other absurdities, this test has a grain of reason at the bottom of it. It was first introduced to test blues, i. e., to see whether the cloth was dyed with alizarine blue or with the inferior logwood, the former imparting no color to boiling sulphuric acid of 10 per. cent. strength, while the latter does. It was then found to serve to distinguish alizarine black from logwood black, and for these purposes it is all that can be desired.

But to test with it dyes such as alizarine, cyanine, diamond black, etc., which experience has proved to be of very high degrees of fastness to ordinary treatment, such as washing and exposure to weather, but which will not stand acid, is entirely unfair.

***

Lightfoot, as long ago as 1866, suggested the chloring of wool before dyeing or printing with aniline black. Now-a-days in woolen printing, chloring is generally adopted with all the colors. It has the advantage of making the shades more level and livelier, and the capacity of the wool to fix the coloring matters is so much improved that the printed goods are free from the little white specks which lower the value of printed woolen muslins.

A writer in L'Industrie Textile now suggests that chloring should be generally adopted in woolen dyeing, not only for pieces for warps, and he claims that the warp dyers especially will find the process a great advantage in the case of inferior woolens and with dyestuffs which do not go on evenly.

***

A good many different processes have been tried in chloring wool. The method most frequently followed is to enter the cloth into a weak solution of salt (not stronger than 1° B) or of hypochlorite of sodium, and to allow it to remain in this bath for from a quarter to half an hour. It is then padded in a very weak solution of sulphuric acid, washed carefully and dried, when it is ready for printing.

The stronger the chloring bath and the longer the wool is exposed to it, the more affinity does the fibre acquire for the coloring matters, but on the other hand too much chloring not only gives the yarn a yellow tint but hardens it. A happy medium has to be hit, and this is what makes the chloring of woolens a delicate operation in practice.

***

Rochefontaine's process of dry dyeing is especially applicable to such long napped cloths as velvets, which are difficult to dye in the ordinary manner.

The dyestuff is dissolved in spirits of wine and mixed with benzine to the extent of about a fifth of the volume of the solution. The result is a perfectly clear liquid which can be used either as a dyebath or may be brushed over the cloth. The benzine can be recovered from the solution for use with another color, by mixing it with an excess of water. The coloring matter dissolves in the water, or precipitates out, and after standing a little the benzine separates out in a perfectly colorless condition and may be siphoned off.

Dyestuff Review.

Dyers in need of a good and cheap seal brown on wool should try Brown B O, of Schulze Berge & Koechl, 79 Murray Street, New York. This color dyes with acid and Glauber's salt and is afterwards developed by adding chrome to the bath. Brown B O produces very pretty dark browns which are of good fastness. The same firm has a very fast blue on wool which is dyed on a chrome bottom. Four per cent. of the firm's "Fast Wool Blue" produces a pretty deep blue shade and the color is very fast to light. For Brown B O, and Fast Wool Blue, see dyed out samples on May Dye Sheet.

The Chicago Blues, of the New York & Boston Dyewood Co., 55 Beekman Street, New York, have received considerable attention, principally Chicago Blue 6B. 1-4 per cent. of this color produces a pretty light blue, whereas 1 per cent. is sufficient to produce a handsome medium dark blue. Chicago Blue 6B, is dyed with Glauber's salt and soap, and if treated after the dyeing process with sulphate of copper, the shades become very fast to light.

Chicago Blue 2 and 4R, also have received attention from a number of dyers. These two new brands produce with 1 per cent. a pale violet, and with 3 to 5 per cent. a dark rather reddish navy blue. The color dyes with Glauber's salt and soda. See May Dye Sheet for dyed out samples.

A very beautiful greenish blue, under the name of Turquoise Blue, was placed in the market by E. Sehlbach and Co., 77 William Street, New York Turquois Blue, is dyed on a tannin mordant and 1-4 per cent. produces a beautiful pale greenish blue; 1 per cent. produces a fairly deep blue, similar to a peacock blue shade.

Turquois Blue, dyes silk in a curdled soap bath and is also suitable for silk and half silk printing.

Heliotrope 2B. for Cotton.

This is the latest color placed upon the market by the New York & Boston Dyewood Co., 55 Beekman Street, New York.

Heliotrope 2B dyes cotton with 1-100 per cent. a handsome light shade of heliotrope and 1-2 per cent. dyes a deep shade. Heliotrope 2B dyes in a bath with Glauber's salt and soap.

Titan Sky Blue.

This is the name of the latest blue of the Titan series, which the firm of Read Holliday & Sons, will place in the market at an early date. Titan Sky Blue dyes like all the other Titan colors, on unmordanted cotton in a boiling salt bath. The blue obtained is, however, not quite so bright as the blue produced with Titan Como S.

Alkali Violet R.

This is new violet-blue for wool, placed in the market, by Messrs. E. Sehlbach & Co., 77 William Street, New York.

Alkali Violet R. is a similar shade to the firm's new Victoria Blue B.

This new color dyes in a neutral bath, will also dye in an acid or weak alkali bath, and produces bright blues on chrome mordanted wool.

When Alkali Violet R and New Victoria Blue B are used together in combination, both colors should be dissolved separately.

New Fast Grey on Cotton.

New fast grey for cotton, is the latest color placed upon the market by Messrs. E. Sehlbach & Co., 77 William Street, New York.

New fast grey produces upon tannin mordanted cotton with 1-2 per cent. of color, a silver grey; with 2 per cent. on sumac mordanted cotton, a deep bluish grey is obtained, and with 3 1-2 per cent. of color on sumac and iron prepared yarn, a blueish deep black is obtained.

New fast grey will combine with turquoise blue, new fast blue F and bismark brown, and produces dark blue and brown shades in combination with these colors.

This new color is suitable for printing on cotton, wool and silk.

Cyanole Extra and Diamine Black HW.

Messrs. Wm. J. Matheson & Co., 178 Front St., New York, have published sample cards of their new products, Cyanole extra and Diamine Black HW.

Cyanole extra is a blue for wool, and dyes with 1-2 per cent. a beautiful bright blue, and in combination with orange extra, Indian yellow, archil substitute, anthracene black B, most any imaginable shade can be produced. The card contains 48 different shades, from a handsome bright blue, to a garnet and dark seal brown. Cyanole extra is dyed with the addition of bisulphate of soda.

Diamine Black HW. is of the same class as the other brands of diamine blacks as BH, OO, etc.; HW gives a very bright black. It is dyed in a boiling bath with soda and Glauber's salt, diazotized and developed with phenylene diamine. With 1-4 per cent. a mode grey can be produced. Diamin black HW will dye cotton cloth, cotton and wool mixed goods.

Naphtazine Blue.

Messrs. C. Bischoff & Co., 80 Front Street, New York, have issued a sample card, displaying 60 woolen cloth samples dyed with Naphtazine blue B and G, Brilliant red B, Acid rubine BB., Claret G and Chromoflavine D.

We have from time to time reported the various brands of naphtazine blues, as also given practical demonstration of the same on our Dye Sheets, but as this color is rather a very useful one, we will again give the particulars in regards to them.

Naphtazine blue dyes wool and silk and is suitable for printing wool and silk, the dyeing of wool is done with the addition of Glauber's salt and bisulphate of soda and produces very handsome navy blues.

By after chroming the wool, more greenish and darker shades are obtained. The chromate of potash can be added direct to the bath, or the wool can be treated in an extra chrome bath; the latter is preferable.

The fastness to fulling is very good, but if the wool is chromed, the fastness is still better. The fastness to light is exceedingly good; a piece of cloth dyed with naphtazine blue, was exposed to the light and air in our laboratory for over ten weeks and showed absolutely no signs of fading, but had become a little darker. The color is very fast to acid and of good fastness to washing; the fastness is still better if the wool is chromed. If a light and lively blue is wanted a little sulphuric acid should be added to the bath. The color is not quite fast to soap.

Silk is dyed in an acid or broken soap bath. Naphtazine blue will combine with nearly all acid colors.

Fading of Colors.

The fading of the colors is a most important feature of dyed textile fabrics to the dyer, this fading being chiefly brought about by the agency of light. Hitherto the ideas as to the actual influence of light on color has been of a very crude nature among dyers. They have known that it causes colors to fade, some perhaps have thought that some kinds of light will cause colors to fade more rapidly than others, and in general this particular virtue has been thought to reside chiefly in a blue light.

Mr. Dufton, in a very interesting paper which he has just contributed to the Society of Dyers and Colorists, has, however, given some new views on this important subject, and which are expressed by the following statement. "The fading of colors under the influence of light is brought about by the absorbed rays, each color being most powerfully affected by those rays for which it possesses the strongest absorption. It thus follows that the kind of light which causes the most fading will depend upon the nature of the dyestuffs, thus picric acid fades most under violet light, because it is the violet rays that it absorbs, while Victoria blue and Diamine sky blue fade when exposed to orange light, but will not fade when exposed to blue light, because it is orange light that they absorb, while blue light remains unabsorbed. Malachite green exposed to red light fades."

This is a very interesting point in the fading of colors, and one that will bear further amplification, and we should like to see Mr. Dufton pursue the matter further. It is a well-known fact that deep shades of dyestuff are much faster to light than light shades; this is probably because the light in passing through the uppermost portions of a dyed fabric is robbed of those rays which act upon the color, and so the undermost portions of the fabric are protected. Then, again, in dyeing shades with two colors, one a fugitive and the other fast, if both of these colors have the same absorbing influence on light, the fast color will protect the fugitive color; if, however, they are of different characters, then the presence of the fast color will have no retarding influence on the fugitive color. We recommend our readers to study Mr. Dufton's paper for themselves.—[Dyer & Calico Printer.

Correspondence.

PLYMOUTH, PA., May 22, 1894.
Editor of Dye Department:

Dear Sir: Will you kindly see that we get the Dye Sheet more regularly; we have not received one since March. We are very much interested in it and we cannot afford to be without it; if there is any additional cost for it let us know and we will send the money and oblige.

Yours truly,
WEST BROS.
Pioneer Knitting Mills.

P. S. Please send us April sheet and also this month's and if you have any specials we should be pleased to receive them.

(We send the Experimental Dyesheets regularly and will be glad to send you the special sheets we publish. There is no extra charge at present. ED.)

NEW YORK, May 24, 1894.
Messrs. Guild & Lord:

Gentlemen: Attached find one dollar for one year subscription to the "TEXTILE MFG. WORLD"; please begin subscription with February number, that I may get the several experimental Dye Sheets. If you can spare time to advise me of any dyeing or silk literature kindly send list, and oblige

Yours truly,
Louis H. Ferber.

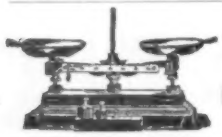
AMSTERDAM, NEW YORK, May 31, 1894.
The Textile World:

Gentlemen: I send you under separate cover, sample cloth which please color a balbriggan and an Egyptian color and send sample of color with prices and oblige.

Yours truly,
Knitting Co.,
Agent.

(Will gladly dye the cloth for you and send you the receipes and the name of the dealer where you can get the dyestuff, but we never send samples or quote prices of dyestuff. ED.)

C. BISCHOFF & CO.,
80 Front St., New York. Branches, 110 Walnut St., Phila. 104 Broad St., Boston.
Aniline and Alizarine Colors, Dyestuffs, Chemicals,
ANILINE OILS AND SALTS.
LATEST SPECIALITIES.
Cresylblue, OB pat'd. } For Cotton absolutely fast to Sunlight. } Thio Veruvine, BB. } One Dip
" BB " } " Brown, BB. }
" RR " } " Yellow, R. } Cotton Colors.
Cresylviolet " } " Orange, G. }
Naphtazine Blue (Pat. Applied For—a fast acid Navy Blue for Wool.
Sole Agents for the U. S. and Canada of
Mommers' Patented Process of Cop Dyeing.
CORRESPONDENCE SOLICITED.



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HENRY TROEMNER,
710 Market St., Philadelphia.
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Muddy water is good enough for Muddy Colors.

CLEAR COLORS
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Water for Dyeing, Bleaching or Finishing, ought to be as clear, bright and sparkling as for drinking.
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IT IS A
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PATENT SECTIONAL ALL IRON TOWERS.

PATENT SECTIONAL COMBINED WOOD AND IRON TOWERS.

PLAIN ALL WOOD TOWERS.

Elevated Tanks for Automatic Sprinkling Plants.

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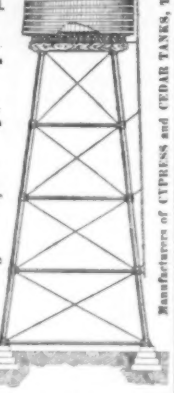

Manufacturers of CYPRESS and CEDAR TANKS, TUBS and VATS.

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218 and 220 Floyd Street,
LOUISVILLE, KY.

ALBERT RUSSELL
ENGRAVER
ON WOOD
38 PEARL ST.
BOSTON, MASS.

THE SCOOP ENVELOPE
Patented February 13th, 1894,
For Mailing Samples
Of dyes, chemicals, fibres, etc.
Samples, Prices, etc., on application to
SCOOP ENVELOPE CO., 26 Reade Street, New York City.
Also manufacturers of the Tension Envelope, which is so favorably known throughout the country for mailing samples, catalogues, etc.

A Special Dye Sheet of Lactic Acid Tests.

We are sending out with our regular Experimental Dye Sheet accompanying the June issue, a special sheet containing twelve tests, where Avery's Lactic Acid has been used in mordanting wool in place of various other ingredients which it supplants.

Dyers will doubtless study with interest these experimental tests, made in our own labaratory for the purpose of ascertaining exactly what could be done with lactic acid. The results speak for themselves.

We should be pleased to send one of these special sheets to any manufacturer, superintendent or dyer who does not receive it. Information concerning lactic acid can be had of the Avery Lactart Co., 169 Devonshire St., Boston.

Colors that will Rule in Dress Goods.

The question of what colors are likely to have pronouncement in next season's fabrics is now almost definitely decided. "Jeanne d' Arc," a bluish gray, and the darker gradations of that color are being introduced in the mixture effects with more than usual regularity. Covert cloths especially have been put out in gray-blues more than in any other shade.

Gray-blue is not, however, a color likely to become popular with the majority of consumers, being a shade that only few can wear. The "greenery-yallery" complexioned woman cannot wear such a color unless relieved by some fancy trimmings that will accord with both the shade of goods and her complexion.

"Spahis," a grayish blue shade similar in tint to that worn by the African sharpshooters, and "Cluny," a lighter shade of blue-gray, are very beautiful as combination colors with black or white.

"Sevres," a china blue, is another shade bordering on the navy, but considerably lighter and more aristocratic in appearance. From that we come to "Clairvaux" and so on until we reach the darkest shade of navy, all of the different tints being introduced with combinations of red, garnet and wine.

The darker shades of Magenta, such as "Datura" and "Jacqueminot," will also have place in the combination effects. "MacMahon" blue, a rich shade of navy, is worth watching, as from present indications attention seems to be given that color by London and Paris houses.

Garnet in plain cloths will be worn combined with black velvet or lace. Blue and blue-grays will most likely be combined with white or black. The tendency on "the other side" is to wear vests with shades of tan golden-brown and navy.

Whether that feature will figure in the style of costumes which will be worn here next fall is yet a matter of speculation, but there is at least on the sea of American fashions a white cap that indicates a preference for combining white with colors.

Magenta and black, and red and black, are certain to have preferment as combinations, and that such will be much worn is now beyond peradventure. Indeed, fancy effects that do not show such colors are not regarded as being what the consumer will buy or the buyer favor.

Black has always been regarded as a fit concomitant to red and to Magenta; and that these two colors should be favored for next fall is not at all surprising, seeing that they have been held so long in the background.

Tobacco-browns, light-olives and "Sylva"—the latter a near relation to réséda—will have more or less call. The old-rose family is not forgotten, for we find it in almost all collections—at least, the darker shades of that color.

"Kermesse" is the shade most frequently met with in the foregoing.

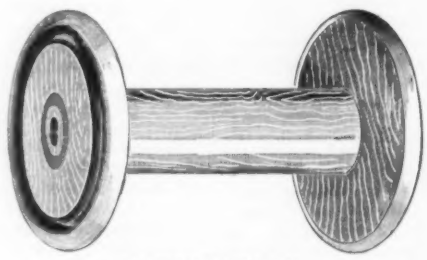
Télégraphe-blue is also shown, but such a color is altogether too light to become popular for fall wear.

Purple shades are likely to be frequently seen combined with black. The bouclé effects are usually met with having purple as the foundation color. Hence the probability of dark shades of purple being worn this autumn.—[Dry Goods Economist.

Boynton Metallic Bound Non-breakabel Spool.

We here illustrate the new metallic bound spool being placed upon the market by the Boynton Manufacturers' Supply Co., A. W. Worthley, sole agent, 299 Devonshire St., Boston, Mass.

As will be seen by the illustration, the edge of the spool head is bound with a rim of Bessemer steel, tin coated, and so perfectly is the metallic binding applied that the spool is extremely smooth and perfect in every way, both on the extreme edges and at the point where the inside edge of the metallic binding meets the wood of the spool head.



NON BREAKABLE SPOOL.

The annual loss resulting from breakage of warp spools, cutting of warp from the spools that become worthless, also the spoiling of spools by splintered edges of the head, all combine to render any smooth and perfectly applied metal binding very desirable.

It is evident that with this perfectly *smooth* edge, the yarn must run with extreme freedom from breaking or weakening, which cannot fail to result from a *rough* edge on the head of a spool of any kind, therefore doubtless many of the spools which are now thrown aside on account of rougness, have been the cause of more damage to yarn than the value of the spool itself.

Metallic bound warper, twister, jack and silk spools of any desired size are furnished by this company, and have been given very thorough practical tests in actual operation by such companies as the Merrimac and Boott of Lowell, Pacific Mills of Lawrence, Cocheco Mills, Dover, N. H., and many others.

May 28, 1894.

Messrs. Guild & Lord:

Gentlemen: Please find enclosed one dollar bill for subscription to the TEXTILE MFG. WORLD.

I shall be pleased to receive one or two of your special Dye Sheets, also a good recipe to dye 100 lbs. of raw cotton a good black and brown, as the old way takes too much time and labor. Your kind attention will oblige,

Yours truly,
A. M.

P. S. We are making ladies' dress goods, the color must be bright and fast.

(For good black see May and June Experimental Dyesheet. ED.)

CHERRY VALLEY, MASS., May 18, 1894.

Messrs. Guild & Lord:

Gentlemen: Enclosed you will find $2.00 for the TEXTILE WORLD for two years, and I can assure you I am much pleased with it. I am a dyer and think your monthly Dye Sheet a great thing.

Yours very truly,
John Boland.

Recipes for Dyeing.

FAWN BROWN ON HALF-WOOL.

For 100 lb. of half-wool union goods. First treat the goods for ten minutes in a warm, weak soda bath, then rinse and pass into a dye bath made with:

3 oz. Tabora black,
1½ oz Nyanza black,
4 oz. orange TA,
10 Glauber's salt.

Work at the boil for 3-4 hour; then turn off steam, and allow the goods to remain in the bath for 20 minutes longer; then lift, wash and dry.

DARK BROWN ON WOOL.

For 100 lb. wool, prepare a dye bath with:

2½ lb. sulphon dark brown,
4 lb. acetate of ammonia.

Work at the boil for 1-2 hour; then add

2 lb. acetic acid.

Work again 1-2 hour longer; then lift, wash, and dry.

BRIGHT YELLOW ON WOOL.

For 100 lb. wool, prepare the dye bath with:

1 lb. nitrophenine,
30 lb. Glauber's salt.

Work at the boil for one hour; then lift, wash, and dry.

PALE BROWN ON COTTON.

For 100 lb. cotton, the dye bath is made with:

2 lb. Mikado orange 4R,
3 oz. benzo fast grey,
20 lb. Glauber's salt.

Work at the boil for one hour; then lift, wash, and dry.

DARK GREY ON HALF WOOL.

For 100 lb. half-wool, make a dye bath with:

9 oz. Mikado orange G,
5 oz. diamine black BH,
2 oz. sulpho-azurine,
3 oz. croceine orange,
20 lb. Glauber's salt.

Work at the boil for one hour; then lift, wash, and dry.

PALE LILAC BROWN ON WOOL.

For 100 lb. wool, first mordant the wool in the usual way in a bath containing:

1 lb. bichromate of potash,
1 lb. tartar.

Work at the boil for 1 1-2 hours; then lift, rinse, and pass into a dye bath which contains:

2½ oz. anthracene brown SW,
1½ oz. anthracene blue WR,
¼ oz. alizarine red S,
2 lb. acetic acid.

Enter cold, or at a hand heat, then slowly raise to the boil and work for 1 1-2 hours; then lift, wash, and dry,

INVISIBLE GREEN ON WOOL.

For 100 lb. wool, first mordant the wool in a bath containing:

3 lb. bichromate of potash,
1½ lb. copper sulphate,
1 lb. sulphuric acid.

Work at a boil for 1 1-2 hours, then dye in a fresh bath containing:

2 lb. milling yellow,
2 lb. logwood extract,
20 lb. Glauber's salt.

Work at the boil for 1 1-2 hours; then lift, wash, and dry.

DARK DRAB ON COTTON.

For 100 lb. cotton, prepare a dye bath with:

1 lb. Titan brown Y,
3 oz. Columbia green,
2½ oz. Titan orange,
17 lb. Glauber's salt.

Work at the boil for one hour; then lift, wash, and dry.

MAIZE YELLOW ON WOOL.

For 100 lb. wool, prepare a dye bath with:

5 lb. acetate of ammonia,
3 oz anthracene yellow C,
¼ diamine fast red R.

Work for 20 minutes at the boil, then add

3 lb. bisulphate of soda.

Work 1-2 hour longer, then wash and dry.—[Textile Mercury.

The Industrial Disturbance.

With the advent of Spring has come a wide spread disturbance in the labor situation. Apart from the Coxey movement, which has for its adherents, as a rule, a vagrant following of restless spirits, there have been an unusual number of strikes, lockouts and disputes, which have contributed very largely to the general feeling of depression.

To the manufacturer and business man, who has had the painful and unavoidable experience of lessened profits, failures, dull times and general depression forced upon him, it seems unreasonable that operatives should choose such a time for their disturbances. The reductions in wages which have been made will not effect the losses which the manufacturers have to bear on account of the reduction in the price of their goods.

The workingman wanted cheap goods and on the assurance of the free traders, voted for the party which was to give them to him. Cheap goods have come to him to a certain extent, but alas, cheaper wages have come too. How can it be different? To make cheaper goods, some one must have worked at low wages. If these cheaper goods are made in the United States, it is American workmen, who must accept the lower wages, uuless they are protected by a duty. If a reduced tariff goes into operation, how can the operatives expect a restoration to the former scale? They "can't eat their cake and have it too." If they get the cheap goods, there must be some equivalent reduction in wages. If we are coming to a lower plane of values, labor must share in the reduction.

So far, the principal disturbances have come from an ignorant foreign element in the mining and silk manufacturing regions. The New England strikes have in almost every instance been terminated by the acceptance by the operatives of the manufacturers' terms, as doubtless the employes have finally realized that the manufacturers were not in a position where concessions could be made without positive loss.

We look for less, rather than more trouble of this nature in the textile line from now on. There are some clouds in the horizon over Fall River, New Bedford and Taunton, but we think some satisfactory arrangement will be made before a strike occurs. In the face of the Washington Mills affair, there is likely to be less trouble among the woolen mills, and we hope to see the summer months more free from the disturbing element of labor difficulties.

Babcock's Textile Manufacturers' Directory.

The 1894-95 issue of Babcock's directory has just appeared, and is its 24th edition. This directory is very handsomely gotten up, printed on an excellent quality of paper, with very pleasing type appearance. The price is $5, and it can be furnished from our office at publishers' rates, or by addressing the publishers at 320 Broadway, New York.

New Ideas for Trimming Underwear.

For some time manufacturers of ribbed underwear have sought for fancy trimming with lace effects which would not increase the cost of their goods above the price which would be satisfactory to the consumer. We are glad to state that Messrs. Fleming & Chapin, of 215 Church Street, Philadelphia, have now ready new and handsome designs in lace effects for underwear trimming.

Formation of Spots on Wool Goods Through Cupric Oxide Ammonia.

BY OTTO WALTHER.

The bottoms of fulling and washing machines are very often covered with zinc or brass sheets, and though it may be considered practical from the point of building the machine, there is considerable doubt as to the advisability.

Spots have appeared upon goods, and colors changed, in the process of fulling and washing, and the cause could not be discovered, when in fact it might be traced back directly to the metal covering of the machines.

The brass covered bottoms, in this respect are considered the most dangerous, which is perfectly natural, as one component of brass, is copper, a very sensitive metal.

In the process of fulling and washing, alkalic reacting soaps, also urine, ammonia, and acids are used, and this alone should prohibit the use of metallic covered bottoms.

Ammonia is used a great deal for washing, as it heightens the action of the soap, but by coming in contact with the brass bottom, it acts immediately upon the copper and forms cupric-oxide-ammonia, which like other cuprous compounds, on account of its oxidizing action, attacks indigo in the vat very strongly. Goods having come in contact with this cuprous compound, will always dye darker in the vat.

For piece goods which are to be dyed a vat blue, brass covered bottoms, should not be used, as it will create a great deal of trouble and surely will create spots, except when ammonia is not used for washing the goods.

An interesting case which occurred in practice might be quoted here.

Goods washed in a certain washing machine would not slide easily over the bottom, and to overcome this, the bottom of the machine was then covered with brass sheets. Soon afterwards blue dyed pieces of goods such as serges, cheviots, etc., showed a number of dark dyed spots, which looked as if those parts of the goods had come in contact with something in the vat.

All investigation to discover the cause was fruitless, until the manufacturer conceived the idea of practising with a perfect white piece of cloth; the other goods on which the spots had appeared, had been given a light ground before dyeing.

Step by step in the various processes of washing, fulling and dyeing, the cloth was watched as there was no doubt that some strong chemical action took place.

After every operation, the piece of cloth was placed over a pole and examined, but until the washing process, after the fulling, nothing was noticed. Accidentally that piece of cloth was put for the washing process in the vat with the brass covered bottom. After the washing, the cloth was again put over the pole; by looking through the cloth against the light, it showed that it was covered with a number of reddish spots, all of one size as discovered in the dyed pieces. A piece of the white cloth, was cut off, then dipped in diluted ammonia, and then rubbed against the brass covered bottom and the spots at once appeared and showed the color as noticed in the dyed pieces. There is no doubt that the spots were produced by the combination of cupric-oxide-ammonia, when the ammonia was poured fresh over the goods and the latter came in contact with the brass covered bottom.

As quick as the emulsion set in, the ammonia spread more evenly, and apparently lost all action upon the brass.

The piece of cloth, with which the experiment was made, was then dyed and the spots appeared very marked. It was afterward determined that all the goods which were spotted, were washed in the machine with the brass covered bottom, this bottom has been removed and a heavy glass covering has been substituted. The trouble has now disappeared.—[Faerber Zeitung.

—The Hastings Wool Boot Co., of Hastings, Mich., have just started two new Bramwell Feeds with special improvements for wool boot cards, built by Geo. S. Harwood & Son, Boston, Mass.

The Action of Light on Red Textile Dyestuffs.

Report of the committee of the "British Association," reported by J. J. Hummel. (Chemical News, through the Journal. Soc. Dyers and Col.

Professor Hummel reported from the last session of the "British Association" in regards to the experiments made in 1892-93 to the fastness of the greater number of red dyestuffs:

Silk, wool and cotton fibre, were dyed with an equal amount (2%) of the various brands of artificial as also natural dyestuffs. The samples were exposed to light in a small country place, Adel near Leeds, England. This place was selected on account of the predomidation of western winds in that part of the country, and so the colors were protected from factory smoke and sulphurous acid.

The samples were fastened to boards covered with white calico and placed in glass cases in a perpendicular position. Air and dampness, after a previous filtration through loose cotton (for the purpose of removing dust, etc.) could freely circulate in the glass case.

Each sample was divided in six pieces, of which one was protected from the light and the remaining five were exposed at different lengths of time to the light. The shortest time a sample was exposed to the light, was about three weeks (May the 24th. to June the 14th, 1892).

In the year 1892-93 the red dyestuffs dyed upon wool and silk were exposed to the light, but on account of want of room, the congo dyestuffs and a few others had to be left for some future time. In 1893-94 the orange and yellow colors will be examined and in later years the other colors will undergo examination.

The fastness of the colors were noted as follows: very fugitive, fugitive, medium fast, fast and very fast.

GROUP I—VERY FUGITIVE COLORS ON WOOL.

The colors of this group faded so quickly that, after three weeks time, only a trace of color was left, and after a year all color had absolutely disappeared and the cloth was left perfectly white or yellowish.

Triphenylmethan dyestuffs. Phtaleine.

Eosine A, erythrosine G, meythl eosine, erythrosine, eosine S, phloxine P, eosine BN, erythrosine B, cyanosine, cyanosine B, phloxine, phloxine extra, rose bengale NTO, rose bengale NT, bengaline PH, rose bengale B, and cyclamine.

Eosine BN (Didbromdinitrofluoresceine) is much faster than all the other eosines. Cyanosine B (Tetrabromtetrachlorfluoresceinethylether) fades as quick as the other colors in the first few weeks, but leaves a trace of color on the cloth, which had not faded after having been exposed to the light for a year.

Azine dyestuffs. Safranine, etc.

Safranine extra, safranine B extra, diamidophenazinnitrate, neutral red, magenta, induline, rosinduline, rosinduline 2G, rosinduline G.

Azo dyestuffs.

Roxamine.

The eosines, rosindulines and roxamines, do not alter their shades when fading; the safranines, after the first few weeks being exposed, leave a dull brownish-pink color.

To be continued.

—J. K. Russel is the new superintendent at the Millville Mills, May's Landing, N. J.

—Fred Sutcliff has resigned as overseer of dyeing, at the North Andover Mills, North Andover, Mass., and gone to Lewiston, Me.

—Among the advertising novelties that are constantly coming before us is an amusing little pamphlet sent in by Keating & Dangel, stationery and blank book manufacturers, 176 Devonshire St., Boston. It is their usual custom to send to their customers each month a little memorandum book for the current month. This month they present us with a handy little blank book in which all the pages are absolutely blank. The humor of it lies in the title, viz: "What Congress Has Done."

Aniline Black on Hosiery.

The materials to be dyed are boiled out in the usual manner with soda, and afterwards worked in a weak bath of acetic acid in order to neutralize any remaining soda; they are then rinsed and hung in a warm room until wanted for dyeing.

For dyeing, two solutions are made.

SOLUTION I.

33 lb. aniline salt
33 " " oil
33 " hydrochloric acid (18° Be.)

Mix all well together, and, when the temperature has fallen considerably, add a mixture of 33 lb. chlorate of soda dissolved in 11 gals. of water.

SOLUTION II.

Dissolve—
11 lb. copper sulphate,
3½ oz. bichromate of potash,
½ pt. sulphuric acid (66° Be.)

in such a volume of water as will give a gravity of 4° Be.

For use, solution 1 is diluted to 8° Be., and 1 qt. of solution 2 is added with thorough mixing. Into this bath the dried articles are immersed and well worked for about 1-2 hour, after which they are lifted out and allowed to drain, and are finally centrifugated. The hosiery is then subjected to the action of oxidation for about 2 to 2 1-2 hours in a suitably constructed chamber, each piece being placed on a board. After oxidation, they are worked for a quarter of an hour in a bath of bichromate of potash—3% on the weight of the material—the temperature of this bath being kept at about 100° F. This finishes the dyeing process proper, the subsequent operations consisting of rinsing, and washing with soap, soda, and a little ammonia, followed by a final rinsing and dyeing.

If the final operations are faithfully carried out there will be but little color left in the goods which will show itself on rubbing. This is the one great drawback with much of the "fast-black" hosiery now on the market.—[Textile Mercury.

Aniline Black on Cotton.

According to Aucher, the aniline black dyeing process can be made more simple and cheaper by treating smaller quantities of cotton at the different stages of the process, which will prevent the loss of dyestuff.

On account of this the aniline is only oxidized until it turns to an olive-green tone, which in a fresh bath is changed to an even black, as follows:

1. The raw cotton is pound by pound impregnated in a bath containing,
27 lbs. of Water,
2 lbs. Sulforicinate.

Each pound of cotton is then treated alone.

2. The first operation consists of very quick dipping of the cotton in a bath containing,
12 lbs. hydrochloric acid,
6 " bichromate of potash.

3. The cotton is then entered in small quantities in bath which contains for 100 lbs. of cotton:
7 gallons of water,
25 lbs. of aniline,
2½ lbs. of hydrochloric acid,

whereto is added according to the shade wanted 1 1 5 lbs. of potassium cloride.

The cotton is worked in this bath for 10 minutes, then all the cotton is collected and transferred to another vessel and left in the same for 24 hours, until the cotton will look olive-green.

4. The loose cotton is entered into bath containing,
125 gallons of water,
6½ lbs. bichromate of potash.

In this bath the cotton is worked for 20 minutes, when the olive-green cotton will change into a fast deep black.

After this operation fork the cotton out, wash and dry.—[Centralblatt fuer dier T. I.

CHAS. R. EARLE, Pres. and Treas. AMOS. W. C. ARNOLD, Agent. M. W. GARDINER, JR., Sec'y

PHENIX IRON FOUNDRY, Providence, R. I. Manufacturers of

Calenders, Starch Mangles, Calender Rolls of Paper, Cotton and Husk,

Bleaching and Dyeing Machinery

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Sole Makers for the United States of
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For CALICO PRINTERS and DYERS.
Best of Workmanship, Quick Delivery and Bottom Prices.
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JOSEPH OAT AND SONS,
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Copper Dye Vats, Vacuum Pans,
Steam Cylinders, Logwood Extractors,
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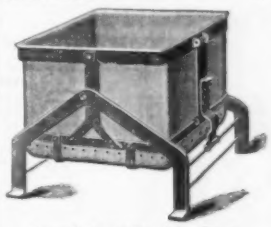
CHAS. BRABENDER. Telephone, 240. CHAS. BRABENDER, JR.

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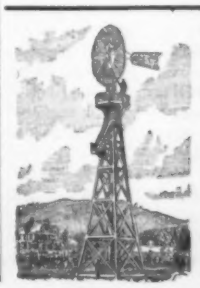
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Bands fitted with Adjustable Lugs and Draw Rods with friction plates. Over 200 sizes. Send for information.
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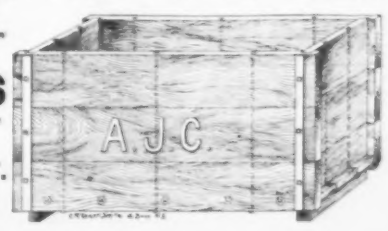

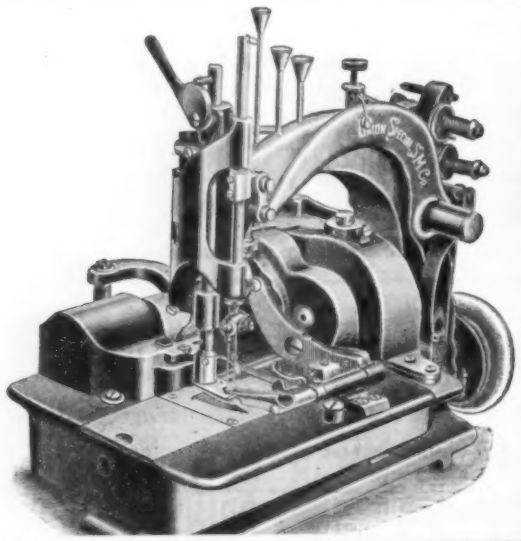

SCOTT & WILLIAMS,

ESTABLISHED 1865.

Builders of all kinds of Knitting Machinery.

NEW SELVEDGING BAR STITCH MACHINE.

FOUR PROCESSES AT ONCE.

Selvedges the Edge, makes and attaches the Trimming and inserts Ribbon at one operation.

RUNS AT SPEED OF 2000 STITCHES PER MINUTE.

The United States Circuit Court for the Eastern District of Pennsylvania has recently issued a decree sustaining our Patents on this machine and on the Trimming made by it, and has granted an injunction against manufacturers in Philadelphia who were using an infringing machine. The attention of the trade is therefore directed to this decision, as we shall proceed promptly against any others who violate our rights by the manufacture, sale, or use of infringing machine or trimmings.

Patented, United States, Dec. 25, 1888. Patented, United States, Aug. 20, 1889. Patented, United States, Sept. 3, 1889. Patented, United States, Nov. 26, 1889. Patented, England, January 1, 1889. Patented, Switzerland, May 17, 1889.

OFFICE: 2077 East Cumberland St., PHILADELPHIA.

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Pepper Manufacturing Co.

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Manufacturers of

Knitting Machinery,

INCLUDING

Pepper's Flat-Ribbed Cuff Machine,

Automatic Welt and Loose Course Machine for Sock Tops. New Circular Stripes with Welt, Loose Course and Striping (Automatic), for Shirt Cuffs, Sock Tops, Hose Legs, Wristers, etc.

All kinds of

CIRCULAR RIBBED MACHINES,

For Men's Underwear, Ladies' and Misses' Hose Legs & Legnigs.

CORRESPONDENCE SOLICITED.

THE

Merrow High Speed Crochet and Scallop or Shell Machines.

For finishing the edges of Knit Goods, Bed Blankets, Horse Blankets, or other fabrics.

For particulars and samples, address

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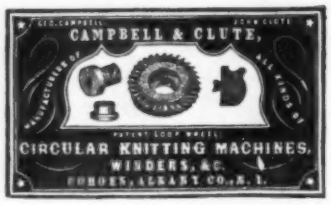
SHIRT Border Machines



Four and five Section Flat Cuff Machines.

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For Overshirts and Underwear,

Both Tipped and Tasseled, and

OVERSHIRT NOVELTIES.

For Samples and other information, address

HEPNER & HORWITZ, 84 Leonard St., N. Y.

WE NEED NO SPECIAL POINT

To prevent the needle from picking up the brass, nor special mechanism to prevent injury to the brass, for the needle in our looper never strikes anywhere but the centre of the point.

HEPWORTH & CO.,

Lehigh Ave. & Mascher Sts., Phila., Pa.

Knitting Machinery, New and Second hand. Good year & Taylor Pat. Stop Motion for Ribbers and Underwear Machines.

JAMES TAYLOR,

(Successor to Walter Snyder.)

No. 835 ARCH STREET, PHILADELPHIA, PA.

ELECTRIC KNITTING MACHINES.

We are prepared to furnish our Knitting Machines with Electric Motors direct connected, doing away with belting in the knitting room, and enabling us to use the simplest and most perfect system of stop motions.

W. STAFFORD & CO., Little Falls, N. Y.

Franz & Pope Knitting Machine Co.,

BUCYRUS, OHIO.

ESTABLISHED 1868.

Original builders of Seamless Knitters.

WE STILL LEAD!

KNITTERS

Automatic Seamless Knitters, Loopers, Steam Presses, Hosiery Brushing Machines, Ribbers, Mitten Machines, etc.

CHICAGO OFFICE: 1001, Ellsworth Bldg. 353 Dearborn St.

Complete Hosiery Mill Outfits. Builders of Knitting Machinery for Special Purposes.

ALL MACHINES GUARANTEED.

KNITTING DEPT.

KNITTING MACHINE CYLINDERS.

PAXTON & O'NEILL,

129 Bread Street, - - - Philadelphia, Penn.

Originators of the Weldless Forged Steel Cylinder. Cylinders and Dials, all sizes up to 24 inch, for the different Circular Rib Frames, Seamless Knitters, etc. The Finest that can be cut, and the Best as to Material Accuracy and Durability.

The Knit Goods Situation.

An improvement has been noticeable in trade during the past month, on domestic hosiery and underwear more particularly. There was a greater deman for summer underwear during the early part of the month, but on account of cold and raining weather which prevailed in the East during the latter part of the month this demand for light goods dropped off.

The difficulty which buyers experienced however, in having their orders satisfactorily filled on summer goods caused a better trade to set in on fall knit goods. Jobbers and buyers, both wholesale and retail, seem to have finally become quite generally impressed with the fact that the trade will have to depend largely on home manufacturers for this fall, and the coming spring, supply of knit goods. Hence it is, that for the first time in many months a slight improvement can be reported in domestic business.

Again, besides the trade coming to a realization of this fact, the shortage on all desirable lines is now very generally felt, and the increased business of the past month may partly be traced to the fact that retailers have found themselves unable to supply the demands of their customers on novel, special patented and all medium lines.

The statement that an improvement is noticeable to us, is perhaps apt to create a question in the minds of some as to the accuracy of our impressions, but it must be understood that we do not assert that business has taken a boom on knit goods, either in regard to the quantity sold or the prices being paid. Not at all; on the contrary we record only a "sign" of improvement, and this more particularly, if not altogether, on

THE SPECIAL AND BETTER LINES.

Some few of the mills having such products have started up part time where they were idle, or started on full time, and in one or two cases they have even commenced running overtime. Alongside of this, however, we have had reported to us for our news columns, several mills shutting down, reducing force and

THERE WERE ALSO A FEW FAILURES DURING THE MONTH.

and some cutting wages. In connection with these mills, the idea is generally expressed that prices are so poor and unsatisfactory that it will not pay to do business.

While neither agent nor buyers expect that the season is going to "pan out rich," yet it is to be hoped that this slight forerunner of good business is the sign of a general revival in trade. There is certainly

A SHORTAGE

on all except the cheap lines of underwear and knit goods and the trade finds itself forced to turn to the domestic mills as its most reliable source of supply, and this certainly is one of the brightest results of the great depression we now seem about to emerge from. American mills are in many cases better enabled this season to compete with certain lines of foreign goods, both in underwear and in hosiery. The mills have spent more money, and aim to improve the quality and finish of the goods being offered for the coming seasons, than they ever have before.

It seems only logical to assume that certain trade will be brought to American manufacturers by this great outlay of effort.

WILL REAP THE BENEFIT.

In this respect, viz. a great step has been taken toward convincing the doubtful, that American mills can produce the best goods, do we mean that the domestic manufacturers are better enabled to compete with foreign mills.

A WESTERN HOSE.

We see this effort at improvement constantly and we are particularly pleased when we see it directed to the hosiery line, for here is where we have the most to fear from abroad. Only a few days ago a New York retail buyer showed us over his stock and he pointed out, with some pride, the goods of one of our Western mills which were certainly as good hosiery as ever Europe sent over for the price. They were ladies' hosiery, full fashioned, French foot, fast black; they were perfectly well made and retailed for 25 cents per pair, no mark down. This buyer had in stock a better quality hose of the same mill, meant to retail at 50 cents. They were perfect goods, yet in finish not better than the 25 cent hose, which speaks well for the latter.

A NEW MACHINE.

In line with the makers of hosiery, and ahead of them, are to be found the manufacturers of knitting machinery. The latest machinery called to our attention and which we have reason to believe will be on the market in a few months is one for making full fashioned hosiery that will be entirely different from the French fashioned goods, which are constantly advancing in popularity.

This new machine is a flat frame (that is, has no cylinder) making a circular but fully fashioned hose. The process may begin either at the top or at the toe of the hose. Say at the top; the work is continued down, widening at the calf, and narrowing at the ankle, and rounding out again at the instep and the heel, and finally narrowing at the toe where the thread is dropped. It is fully fashioned, yet could be entirely ravelled, as it is one continuous thread.

The parts are for fashioning purposes so adjusted that any part, take the heel for instance, may be almost grotesquely shaped.

The boards would be used purely for the purposes of finishing and drying; they would play no part in the shaping.

ANOTHER NEW DEVICE

about to be brought on the market, and may be adjusted to the above or any other machine, is for making a welt. It may be used in making the tops of hosiery or on the bottom edge of undergarments.

The welt top, like the French foot, is a growing thing in hosiery; is in great demand, for its adds to the finish and the strength of the garment, and causes the shape of the upper part of the leg to endure.

FALL STYLES

There are not many new things to be seen for fall and it is the general opinion that the buyers will not import for next spring any more novelties or high colors than they have done for this season. This has already proven to be a poor season for novelties in hosiery.

The demand for fast blacks continues to increase. And now we notice a departure or rather an additional feature in that line which is beginning to *grow in popular demand*. It is the "maco" foot. The foot of the hose is stained an *ecru*, or the shade of brown Egyptian, or a little lighter (never left clear white). It is a step in hygiene, a desirable step.

Hosiery of this class is made in two ways: either the whole foot from below the ankles in the white, or the sole alone. The latter is the best for summer goods which are likely to be worn with low shoes. This is very likely to become, as indeed it should, a staple thing.

Fast black, fully fashioned, French shaped, maco foot, is synonymous of a perfect hose.

FOREIGN TRADE.

There is no change in the situation abroad. The mills are finding no business from this side of the water; find no demand and are watching and waiting and hoping. But as for that last, so are we also.

Change of Firm Name.

The well known firm of patent solicitors, Messrs. Wright, Brown & Crossley, has been dissolved by mutual consent, and a new partnership formed under the name of Wright Brown & Quimby, Mr. Crossley retiring. This firm, originally established in 1866 by Col. Carroll D. Wright, and carried on by Mr. Charles F. Brown, and more recently by Mr. Brown and Mr. Crossley, is widely known in the mechanical world, and they have taken out thousands of patents. They have made a specialty of textile patents, and have done a large business in this line. Mr. Quimby, the new member of the firm, has had a valuable experience in the United States Patent Office, as a member of the examining corps. The firm will retain the offices in the Exchange Building in Boston occupied by Wright, Brown & Crossley.

NYE & TREDICK,
MANUFACTURERS OF PLAIN AND AUTOMATIC
Circular Rib Knitting Machinery
For Knitting Ribbed Shirts, Drawers, Tights, Combinations, Skirts, Jackets, Caps, Bicycle and Athletic Suits, Hosiery, Shirt-Borders, Cuffs, Etc.
Auxiliary · Machines · and · Supplies.
Sewing, Crocheting and Finishing Machinery, Seamless Knitters, Winders, Loopers, Presses and Shaping Boards; also, Engines, Boilers, Shafting and Pulleys.
606 Arch Street, - PHILADELPHIA, PA., U. S. A.
CHICAGO OFFICE, 18-30 W. Randolph St., CHICAGO, ILL.
Estimates Given for Complete Equipment of a Knitting Mill.

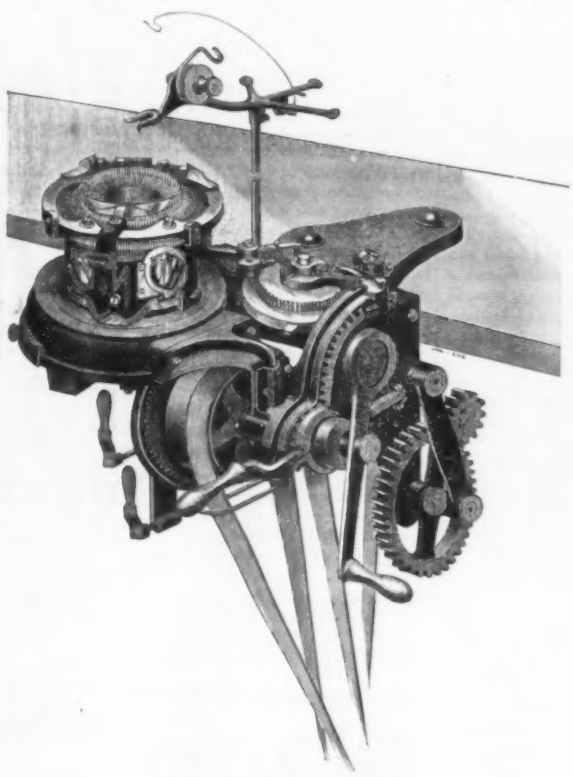
Why do Knitting-Machine Builders Try to Produce a Machine to Make a
BRANSON SOCK?
JAS. L. BRANSON,
506 St. John St., Philadelphia.
Is the original inventor and manufacturer of this class of Machines, and, like most originators, manages to keep ahead of all imitators. Send for Circular A.

The New Branson Semi-Automatic Knitting Machine.

The reputation of the Branson knitting machine, and its wide spread use all over the country, lends special interest to the introduction of the Branson semi-automatic machine, for it may be taken for granted that this perfected product of these well known works has well founded claims to consideration from every hosiery manufacturer who is striving to keep his plant up to date, and bring down cost of production to the lowest possible figure.

Although called a semi-automatic machine, it lacks only one or two movements of being fully automatic. The following description will be readily understood by the knitting fraternity, who are so well acquainted with the operation of the Branson hand machine.

The removing of the cylinders and transferring of rib tops to the needles is the same as heretofore. The stopping for the lengths of the leg and foot is the same.



THE BRANSON AUTOMATIC.

When the heel is reached, by a simple pressure on the lever the back part of the needle is raised up. The machine is then turned by hand till the cams are under the raised up needles, then the operator takes hold of the needle operating devices, one between the thumb and finger of each hand, and turns then outward and downwards till they are caught and held fast. This sets them for lifting the needles. The operator then turns the crank handle backward with the right hand, at the same time pressing the clutch handle to the right with the left hand, until the clutch connects with the crank.

The ratchet wheel seen at the side of machine in the cut, is moved forward one notch by taking hold of the knob on lever that moves the ratchet wheel. This releases the lower upright lever so that the reversing motion can now be started, when the machine will proceed to knit the heel or toe, lifting the needles and at the proper time, the turret that holds the needle lifting arm is reversed so as to lower the needles and stop the machine when the heel or toe is completed. Then press the wooden handle of the lever and free the clutch from the crank handle; turn the machine so the back half of the needles can be pushed down and proceed with the circular work. The knitting of the heel and toe is the same.

We have seen this machine in operation, and it is needless to say that it fully comes up to what might be expected of a Branson machine.

The manufacture of hosiery in this country is now passing through a period of rapid evolution, made possible by the introduction of improved machinery, and behooves manufacturers of such lines of goods to carefully investigate the merits of the machinery now coming out.

The reputation of the Branson Machine Co. (506 St. John St., Philadelphia) suffices to command for their latest product the attention and investigation which it deserves, and it seems probable that the sale of this machine will rival that of their hand power machinery.

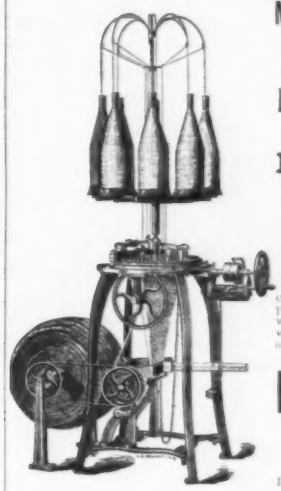
The Water Pail as a Fire Engine.

With all the refinements that have been made in fire extinguishing apparatus, the fact remains that the simple pail of water is, even at this day, one of the most efficient pieces of apparatus of this class that has yet been in use. Insurance statistics indeed show that more fires are put out by water pails than by all other appliances put together, the only point that can well be raised against them being that, while they are generally provided abundantly enough in places where they are likely to be of service, the water is very apt to be wanting. It is true also, in a measure, that, even if the pails were kept full, they are often borrowed for some purpose and not returned, so that when most needed they are unavailable. As a way out of this difficulty, it has been proposed to use pails with round or conical bottoms, which will not stand on a floor, and are not, therefore, likely to be taken off for some use for which they were not intended, but this form seriously diminishes the value of the pail as a fire extinguisher, since a man with two of them in his hands, arriving at the scene of action, cannot use either without setting the other on the floor and losing all its contents.

As an improvement on this, a superintendent in one of the large New England mills, who had found it difficult to keep the fire pails full and in good order, some time ago adopted the following interesting expedient, of which we find an account in some scrapbook data: The hook-carrying the pails were fitted up with pieces of spring steel strong enough to lift the pail when nearly empty, but not sufficiently so to lift a full pail. Just over each spring, in such a position as to be out of the way of the handle of the pail, was set a metal point connected with a wire from an open-circuit battery. So long as the pails were full, their weight, when hung on their hooks, kept the springs down, but as soon as one was removed or lost a considerable portion of its contents by evaporation the spring on its hook would rise, coming in contact with the metal point, thus closing the battery circuit and ringing a bell in the manager's office, at the same time showing on an annunciator where the trouble was. As the bell continued to ring until the weight of the delinquent pail was restored, it was impossible to disregard the summons, and no more reason was found to complain of the condition of the fire buckets.—[From Cassier's Magazine.

BRINTON, DENNEY & CO.,
Builders of a Full Line of
CIRCULAR RIB AND SEAMLESS Knitting Machinery,
For Underwear and Hosiery.
213 and 215 RACE ST., - PHILADELPHIA.

Novelty Knitting Machine Co.,
MANUFACTURERS OF
AUTOMATIC CHECKERS, VERTICAL STRIPING MECHANISM.
SPRING NEEDLE KNITTING MACHINERY,
AND OTHER NOVELTY ATTACHMENTS
BURR WHEELS With Removable Hardened Wings, Shafting, Hangers, Pulleys, Etc.
F. L. WIGGIN, Proprietor, LOWELL, MASS.



Manufacturers of Ribbed Underwear,
Sweaters, Cardigan Jackets, Leggins, Cuffs, Etc., want
Knitting Machines
THAT
KNIT THE GOODS
WHICH
Bring the Profits.
Manufacturers who are using The Leighton Machines, know that it FILLS THE BILL completely. Correspondence is solicited from parties wishing to establish a Knitting Plant, or who may wish to improve their present line of goods, address,
Leighton Machine Co.
MANCHESTER, N. H.
Business Established in 1873.

World's Fair Award.

The Ballou Knitting Machine has received from the World's Columbian Exposition an award of merit for—"Automatic stop motion, which stops machine when a thread breaks; sectional cam-plate, which enables repairs to be speedily made; very large amount of work the machine will produce; combining strength and excellent workmanship."

The official copy, signed by John Boyd Thatcher, is on file at Mr. Lewis Jones' office in Bristol, Pa.

—The New Hampshire Board of Trade is an association of the different city and town boards throughout the state. These business organizations have accomplished much good for the different communities in which they are located, and their association as a State Board of Trade is of great advantage in facilitating interchange of ideas and unity of purpose in promoting the general interests of the state. President is John L. Spring, of Lebanon; secretary and treasurer is Henry W. Eastman of Manchester, N. H.

—The summer time-table of the Fitchburg railroad took effect Sunday, May 27, with but very few changes. The Suburban Circuit, Waltham and Boston, will have two additional Sunday trains. The 3.05 p. m. accommodation Boston to Bellow Falls will be run on week-days the same as last season. The Sunday accommodation train stopping at all stations will leave Boston 9.00 a. m. arriving at Troy, N. Y., 4.25 p. m. The Saratoga Special Express will commence running June 18, leaving Boston on week-days at 9.00 a. m. instead of 11.00 a. m. as heretofore. The Pacific Express leaving Boston at 7.00 p. m. on Sundays will be discontinued.

—G. R. Gates has been promoted to the management of the Boston Finishing Works, Williamstown, Mass.

—James Gilmore has resigned the superintendency of the Broad Brook Co., Broad Brook, Conn.

—H. C. Fuller will be the manager of the new felt works, to be established at Portland, Me.

—Daniel Fearin, for the past forty-five years overseer of wool and scouring in the Rochdale Woolen Mills, Rochdale, Mass., has resigned his position, and retired from active mill life.

THE CONTINUING AND INCREASING DEMAND FROM FORMER USERS, AND ORDERS FROM MANUFACTURERS WHO HAVE HERETOFORE USED OTHER PROCESSES AND METHODS

PROVES MOST CONCLUSIVELY

•• THAT ••

FRIEDBERGER'S EDGINGS

ARE PRE-EMINENTLY

THE BEST and MOST DESIRABLE FINISH for Ladies' Jersey Ribbed Underwear,

Thus substantiating all claims made for them in the advertisements in these and other columns during the past 3 years. Weekly production 1891, 75,000 yards; 1894, 600,000.

SUPERIOR TO ALL OTHERS.

Spring 1895 styles now ready. Samples on application.

S. FRIEDBERGER, Mfgr. Braids and Laces, Germantown, Phila.

Notes on Novelties by a Traveller.

Reported for the Textile Mfg. World.

The underwear business at this late period of the season shows little that is new. Knitting looms have been kept busier than was predicted early in the season, for at first orders were few and small. This kind of business is very unsatisfactory, for in the hustle for orders early in the season, each one thought he would look out for himself and get in ahead of others. This had the effect of demoralizing trade and showed an astonishing weakness and lack of backbone in some of the producers as well as salesmen. These men will learn with regret, that cutting prices does not make business, and they will also find out that they have been their own worst enemies so far as the state of trade is concerned. These cut-throat methods have forced them, instead of making goods at remunerative figures, to cut the prices on some staple lines, so that what little profit there was has been lost.

The entire situation in my opinion is largely the result of lack of common sense and poor judgment of some of the *younger* manufactnrers who are trying to compete witn the older and well established firms. The latter regardless of the unreliable producers, have taken orders for Fall trade, up to September, at a profit. Those manufacturers who give the most attention to

DETAILS OF FINISH

and shape of their garments, such as sloped shoulders, curved armholes and length of garment, need be in no fear of having less business than they can attend to.

Fleeced-lined underwear is enjoying an increased amount of attention just now, perhaps on account of the new and better methods or fleecing and shaping the garment. There is also more call for all wool fleece and cotton faced as the purchaser gets all the advantages of an all wool garment without having the goods shrink out of shape every time they are washed.

There is a light weight fleece-lined shirt shown which I think will be

A GOOD SELLER

and a winner. It is in natural white and random effects, and has a white wool fleece with self finish. It comes in full sizes and weighs eight lbs. to the dozen. It is made by using two threads, both the same size, one of worsted for the face thread, and one of cotton for the tying thread. In making the loop for fleecing there is used a carded Egyptian and a number 40 white worsted. When properly gotten up, the goods are soft and feel to the hand not unlike eider down. These goods are made in both men's and women's wear. A higher priced grade is also made by substituting worsted for the cotton thread mentioned above.

Another ready seller is a heavy fleece-lined

TOP SHIRT

made in several fancy designs of vertical stripes. It is made by using a blocked sinker burr. It comes in fancy colors, such as natural, navy blue, tans, light and dark browns, light blues, etc. The collar, cuffs and front are made with the fleeced goods the same color as the face of the garment, giving somewhat the effect of fur trimming. They also have a bright colored silk lacing which sets them off to good advantage. All of these features give the goods that appearance of warmth so much desired in the cold weather of this Northern climate, and which will undoubtedly create a heavy demand for them. No doubt this style of garment will be an important factor in making up the volume of trade this season.

There are a number of lines of

JAEGER MIXED FLEECED UNDERWEAR,

both in all wool and Peruvian cotton fleece, which have real merit. One great secret in getting a better looking fleece is, that the pioneers in the manufacture of this class of goods do not use the steam press, and in fact do not press the goods at all. Instead, they use an inexpensive little machine called a beater or pouncing machine, such as is used by shoe manufacturers for beating down the seams of shoes. It runs very rapidly, making about eighteen hundred to two thousand revolutions per minute. One girl will do fifty dozen shirts or drawers per day. It levels all the seams on the goods as well as smooths the necks and front-finish, making them look as if they were ironed. The cuffs and drawer bottoms, are flattened down before they are seamed. By using this machine, the bulky and lofty feeling so much desired, is retained and consequently the fleece is not flattened down but retains that plush or velvety appearance desired.

The recent warm weather has resulted in making a stir in the various lines of

BALBRIGGAN UNDERWEAR.

Great advances have been made by the American manufacturers since they have been protected from the foreign producer; and there are lines of medium priced goods that will compare favorably with the foreign article. Some say that the American goods cannot compare with the French balbriggan. This is not true. There is a concern that made a specialty of importing and dealing in French balbriggan underwear up to the time of the passage of the McKinley tariff bill. They found that they could not import the goods and compete with home manufacturers. They then concluded to make the goods themselves, and started a plant in the West that has grown to large proportions. They imitate the French balbriggan so closely that it was impossible to tell one from the other, and have continued selling so-called French goods right along with great profit to themselves.

The great trouble with most manufacturers of balbriggan underwear is that they only think of the number of dozens of goods that they can make per day and lose sight of the details that are necessary in making a serviceable and at the same time a sightly and handsome garment that will attract attention when displayed in a show window. Among some handsome goods that were shown were a random effect in a combed Egyptian and a Jaeger mixed balbriggan shirt. It was colored as I described in my last article. It was carefully shaped with sloped shoulders, curved armholes, collarette neck, self-finished front and pearl buttons, and at a distance closely resembled worsted. It made a very handsome and desirable garment which will undoubtedly be a good seller.

TRAVELLER.

—The New York Filter Co. has just closed a large contract for filter plant for 500,000 gallons capacity per day, with Cheney Bros. & Co., silk manufacturers of S. Manchester, Ct. This filter plant is to be used in their dye house, and will supply it with clear, bright and sparkling water, which is of such vital importance in the production of good color.

—J. J. McBride, formerly superintendent of the Greensboro Cotton Mills, Greensboro, N. C., is now with the Niagara Cotton Mill Co., Lockport, N. Y., acting in a similar capacity.

—James S. Miller, second hand of spinning at the Pemberton Mills, Lawrence, Mass., has resigned.

To ascertain the Number of Revolutions of the last Wheel at the end of a Train of Spur Wheels, all of which are in a line and mesh into one another, when the Revolutions of the first Wheel and the Number of Teeth of the Diameter of the first and last are given:

Multiply revolutions of the first wheel by its number of teeth or its diameter, and divide the product by the number of teeth or the diameter of the last wheel; the result is its number of revolutions.

To ascertain the Number of Teeth in each Wheel for a train of Spur Wheels, each to have a given Velocity:

Multiply the number of revolutions of the driving wheel by its number of teeth, and divide the product by the number of revolutions each wheel is to make, to ascertain the number of teeth required for each.

What shall I do with my Hosiery Plant?

The above caption is a question asked mentally and audibly in all parts of the country where such plants exist.

The question is easier asked than answered satisfactorily. A manufacturer finds himself in the possession of from ten to one hundred or more seamless hand knitters. He hears all sorts of rumors in regards to what is being done with the automatic and semi-automatic machines. He will hear that some of those new inventions will make all the way from five to eight dozens of stockings in a day, and that a small girl can run anywhere from five to twenty such machines and produce good work on all of them.

Now it is not my intention to say one word against these new and useful inventions, but rather would commend them to any person who contemplates going into the business, and further, if he is already in the business and can afford it, to put in the new; but the question is can he afford it, and

IF NOT WHAT NEXT?

In making your calculations about these automatic machines if you will allow about *three* dozen per day on each of these machines, and supply tolerable efficient help they could look after about ten machines with at least one expert to keep things straight.

Figuring on this basis, a plant to manufacture one hundred dozen per day (33 machines) would cost in round numbers $10,000, allowing that on an average these machines would cost about $300 each.

The interest on this, will be $600 per year. Now figure from this how many days it would take to pay the interest on the investment, from stockings of the character required by the jobber and unjust competition to sell for the invariable "quarter of a dollar."

Why in the world do you not make two thread goods from fair twisted yarn and get away from that quarter-of-a-dollar price so we can afford to buy home production instead of imported goods (*Tariff.*)

Let us go back to the hand knitter. What is the best thing for him to do, taking the above as about a fair statement? What does it cost you to make goods by hand power on the cylinders you have in use at present? And bear in mind that you can hardly expect to get above that *quarter* of a dollar unless your cylinders are at least 172 needles in a four inch head.

If you cannot compete, count the cost of cylinders; if what you have are less than 172 take out the wing or movable cams, speed up the machine to all it will bear, and knit straight webb, and then cut the fabric into cut feet. This can be tried at a small cost, and if that will not pay, you certainly have demonstrated what is left for you to do, if you want to stay in the business.

GIBBONS FRAME.

—Mr. Williamson, for a number of years overseer of weaving in the Mathews Cotton Mill, Selma, Ala., has accepted a similar position with the Lynchburg Cotton Mill, Lynchburg, Va.

THE KEYSTONE KNITTER

For Seamless Hosiery.

CYLINDERS OF Forged Steel

With bevel top for perfecting the stitch in the plain fabric and closing the gore in the heel and toe.

Automatic Ribbers, Loopers, Winders, Steam Presses, etc.

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BUYERS AND MANUFACTURERS OF UNDERWEAR, Jerseys and Cardigan Jackets,

will serve their own interest by investigating the merit of the "NEVER RIP" SEAM. All single-thread stitches have proven to be unsafe. A lock-stitch is not sufficiently elastic. A STRONGER AND MORE ELASTIC STITCH is now required.

THE UNION HOSIERY MACHINE

Makes a SAFE, ELASTIC, TWO-THREAD STITCH that will not rip.

For circulars, with full particulars, address the UNION SPECIAL SEWING MACHINE CO.
47 Leonard Street, New York;
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THE CRAWFORD Hollow Plate Steam Press

For Knit or Woven Goods.

Is worth investigating

J. J. Crawford & Son

Nashua, N. H.

CRANE MF'G. CO.

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Spring Needle Circular Knitting Machine

For Hosiery, Shirts, Drawers, Jersey Cloth and Stockinet.

A Specialty of Hardened Bladed Burr Wheels with Self Oiling Brackets.

The BALLOU Automatic Ribbed Knitting Machine

Built with Sectional Cam Ring and the most perfect weight take-up. Best, Strongest and Most Durable Machine. Two Feed Double Knee Machines. We can add to our own or other makes already in use. LEWIS JONES, Bristol, Pa.

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Textile Machinery and Shafting Work.

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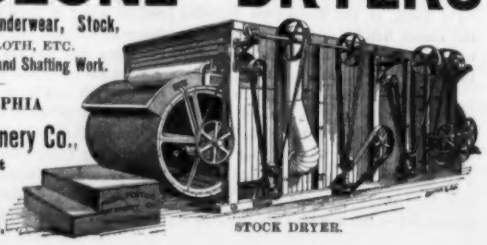


STOCK DRYER.

Weighing and Numbering Yarn.

BY "OLD SUPT."

I see by looking over my old papers that it is five years since I began to write for your valuable paper. The first time was in the April number, 1889, on the false system of weighing yarn in knitting mills, and followed up the different departments.

I mentioned that cotton yarns in England and Scotland and also in this country, were spun and numbered on a uniform system, so that a cotton manufacturer or spinner who understands his trade may know what is meant by a certain number, and why cannot knitting mills adopt some uniform method?

I own up to being partially responsible for the false system that prevails in New York state.

The first knitting mill where power was applied to knitting frames, was in Cohoes, in 1854. At that date there was only 11 or 12 sets of cards and hand jacks for spinning engaged in this business, and in Cohoes alone at this date (1894) there are 200 full sets of carding and spinning, and in New York state alone there are nearly 100 full sets engaged, to one that there was in 1854.

The year I commenced to weigh the yarn by this system (which is known as the Cohoes Standard) I only did it as a simple guide for myself and the knitter, for carding and spinning was not at that date as near perfection as it is at the present time. The cards which were in use in Cohoes at that date, were Davis & Furber 40 inch, and 200 spindle hand jacks, and 100 lbs. of coarse yarn, weighing 2 1-4 runs, or 11.66 grains, was reckoned

A GOOD DAY'S WORK

from 5 a. m. to 6.30 and 7 p. m., so your readers will see what labor and skill has accomplished in two score years in perfecting machinery, where the production is tripled.

The original or first knitting mill which was built in 1832 has been destroyed, and the second, on Ontario St., which was built in 1843, is still standing in a good state of preservation. This is 124 feet long, 45 feet wide, and three stories high, with large additions being made. It has been known for many years as the Troy Mfg. Co., but Mr. F. K. Beirmeister, of Troy, purchased it about two years ago. It was in this factory that a spinner, Mr. N. McP.—went to work after leaving the old mill, and took with him there my idea of weighing, for in those days one had to make the yarn to suit the knitter, without any regard to the weight of goods. If the frames or knitting went badly, the yarn would be made lighter or heavier. To try and overcome this trouble, the knitter would always have it that the

TROUBLE WAS IN THE YARN,

no matter whether it was with the frame or not, so when the frames were running all right, I proposed one day that we weigh that yarn, taking so many yards off a few bobbins, and in the future the yarn must weigh that. This we decided on, so there I caught the knitter, and J. C. soon got to understand knitting a great deal better. I left that mill in 1855, when Mr. Root, of Albany, purchased it from Mr. Thomas Fowler.

When I went to work for Messrs. C. H. Adams & Co., of the Watervliet Mills, which Mr. Egberts erected in 1850, there were 4 sets of carding and spinning. There I reeled the yarn and weighed it by the run with Stephenson's yarn beam, which was very accurate, from 1-4 run up to 16, for occasionally I would try it on a druggist's scale. The Watervliet Mills have been operated by the Parsons Mfg. Co. since 1867, the year after the failure of Alden, Frink & Weston, which occurred in 1866, and that company makes double the quantity of No. 1 goods daily than the daily product of all the knitting mills put together, previous to the time I am speaking of, for there was only in the Bailey Mill 4 sets cards, 4 jacks; Watervliet Mill, 4 sets cards, 4 jacks; Fowler Mill, 2 sets cards, 4 jacks. At this date Mr. Fowler put in one more set, which made three sets when Messrs. Root & Parsons bought it.

About this date, Mr. John Maxwell, who had a few hand machines, put in a set of 30-inch cards and 150 spindle jacks in an old building, where the Empire Knitting Mill now stands, the property of the John A. Nuttall estate. The total in the year 1854 was only 12 sets. At this period there was quite an increase made to the business by the addition of a number of small concerns, and it has kept increasing since, with larger ones added, and some that were small then are among the largest to-day. I write this to show those of the present generation who are working in knitting mills what two score years has accomplished.

Let me here give

A TABLE OR RULE

which I have never made public before, one that is useful and of great benefit to the spinner and manufacturer, that they may know the number of yarn and how it is bought and sold in England and Scotland by the spindle and stone, and compare it with our manner of weighing woolen yarn by the run of 1600 yards. For instance, if a manufacturer or spinner should enter a mill in Great Britain and make inquiry as to what size or number of yarn they were spinning, the spinner might say to him, 16 2-3 spindle. If you are a spinner you may judge the size by feeling, but how would you know the exact weight or number?

Suppose a manufacturer wishes to place an order for 5000 or 10,000 lbs. of woolen yarn with a manufacturer in England or Scotland, and he is using 5 run yarn, how is the manufacturer here to give the exact size or number of yarn he desires, without sending a cut or weighing for a sample, when he should order by the spindle numbers?

RULE. Take any number of yarn, say 5 run (1600 yards in one run). Multiply 1600 by 5 (the number of run). Multiply that number of yards by 24, which is the number of pounds in a stone, then divide that sum by the number of threads in a spindle, 11,520, and the quotient is 16 2-3 spindle, which is the number of yarn in a stone. This table is of great value to manufacturers if they desire to purchase yarn on the other side, for they can easily figure the size they wish if they have the run number. This is an addition to the tables you published in 1891, which are of great value, for many a spinner does not know the exact size of his yarn, but makes a certain weight yarn for a certain weight of goods. If you ask them what weight yarn they are spinning, they may say 5 or 6 grain, and that is all they know. When all yarn should be spun, weighed and paid for by the run, then spinners would have a better understanding of it in general.

(To be continued.)

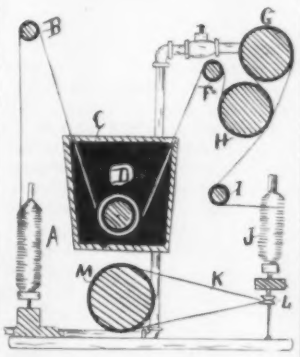
Metal Heels and Toes for Hosiery.

For The Textile Mfg. World.

It is well known that the heels and toes of foot wear give out first, and to strengthen these a party proposes to introduce aluminum into the thread combination. Aluminum is light, durable and when properly applied to the yarns is flexible enough to warrant its practical use. Aluminum is also cheap comparitively, when it is considered how little is needed in order to perfect the threads of the heel and the toe of a pair of socks.

The first samples turned out with the metal clad threads in the heels and toes were quite crude. The heels were rough and the feeling upon the foot as a result of the presence of the metal, was not pleasant. By the admixture of certain ingredients with the aluminum, however, the harsh, stiff feeling is done away with, and now the heels and toes are as soft and pliable as any part of the sock. Yet the toughness of these parts is greatly increased and it is claimed that they will outwear two without aluminum.

It is intimated by the promoters of the scheme that the application of the aluminum to the yarns will eventually be done while the yarns are running into the guides of the knitting machine, thus obviating one rewinding which is necessary now, because at present a special winding is required.



APPLYING THE ALUMINUM TO THE YARNS.

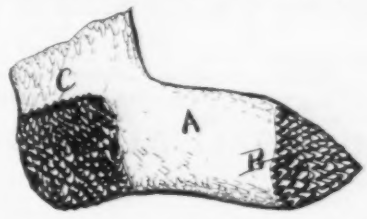
The above drawing is a sectional view of the machine which has been rigged up temporarily by the inventors for the purpose of applying the aluminum composition to the knitting yarns. But a single bobbin and its connections are shown, while in practice a hundred or more bobbins are treated at one time. The hundred bobbins are on spindles or pins, side by side as indicated by the one bobbin *A*. The threads run up over the roller *B*, then down into the tank *C* beneath the roller *D*. This tank contains the dissolved aluminum and of course the yarns receive a coating during the passage through. The inventors intimate that there is something in the aluminum which renders it specially adaptable for use on yarns, but so far as your correspondent was able to see, the tank contained nothing but pure aluminum in a liquid state. If the aluminum does contain a secret composition, that is to remain confidential with the inventors, for they have given permission to publish only a description of the process of applying the aluminum to the yarns.

After the threads emerge from the tank *C*, they go up over the roller *F* then around the two larger cylinders *G* and *H*. These two cylinders are heated quite hot by the steam which is carried into them through the pipe which can be seen, and in which there is a valve to regulate the temperature. Then down to the roller *I* the threads are drawn and are wound once more upon bobbins, one of which is shown by *J*. A cylinder *M*, in conjunction with the band *K*, turns the spindle by means of the whirl *L*, and this revolves the bobbin. As stated above, all this rigging is going to be connected with the knitting machine later on, so that a second winding of the yarns will be unnecessary.

When the treated yarns are ready for knitting they are quite shiny and resemble silvered yarns to some extent. They are not stiff as one would suppose, but are so pliable that they can be wound about the circumference of a bobbin readily.

They are now ready for use. The knitter puts a bobbin on the machine and when the time comes to make the heel she pieces in a thread of the coated yarn, and allows it to knit. It knits in easily and smoothly, and in fact is no more clumsy than warp yarns are after having received a coating of starch sizing.

The writer was shown several samples of the new footwear with the metallic heels and toes, and they looked some-



LOOKS LIKE THIS.

thing like the specimen shown in the above illustration. The body of the sock is all one color, but the treated yarns are of a metallic character, there is only a few words to be said. The fabric wears much longer and in summer time the sock is said to be cooler, while for winter wear it is not objectional because quite a solid texture is made and warmth results.

The Exporter's Handbook of Mexico.

This valuable little book is compiled by P. G. Roeder, 664 Cedar Ave., Cleveland, O. Mr. Roeder has been several years in Mexico as a manufacturers' agent, and speaking Spanish, French and German fluently, has been enabled to secure information concerning the commercial interests of Mexico which otherwise would be very difficult to obtain. His handbook contains carefully revised lists of banks, reliable merchants in all lines of trade, professional men, landed proprietors, mining companies, etc., in 43 cities of Mexico, together with shipping directions, custom laws, vocabulary, etc. Reliable information of this kind is not easy to obtain, and to any person who is contemplating a trip to Mexico, or desirous of opening up trade relations with that country, this book should be of decided value. Price is $2., post paid.

—Lewis Jones of Bristol, Pa., can add to his own make of machines and also to other makes, his two feed double knee attachment, which has great merit.

—A. L. Traver's machine works at Mellenville, N Y. are very busy at present on their improved ravellers.

—Edward C. Beach, formerly manager of the cotton mill at Hapes Mills, N. C., has purchased an interest in the Goldsboro Cotton Mills, Goldsboro, N. C., and has assumed the management of the plant.

WM. COREY CO.,
Manufacturers of Knitting Machine
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LOYAL T. IVES.
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Spring Knitting Needles and Points from the Best Cast Steel. Satisfaction Guaranteed.
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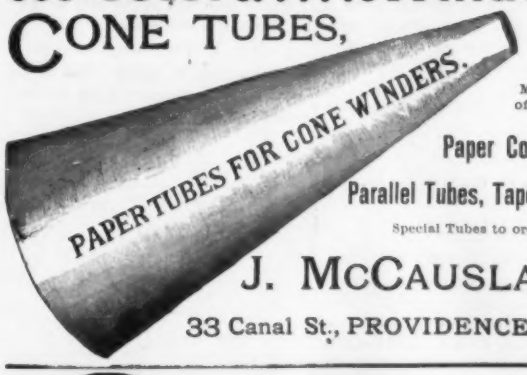
For **Foster** and other **Winders,**
CONE TUBES,


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Parallel Tubes, Taper Tubes,
Special Tubes to order.
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RIBBONS
To Trim UNDERWEAR.
Best Qualities. Write for information to
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Sewing Machines, with or without Trimmers.
SPECIAL FEATURES:
Welting Machines, Finishing Machines, Machines for Sewing Wet Goods, Machines for Double Heel Work, Machines with Concealed Stitch for Tops of Stockings, Etc., Etc. Tables and Shafting with Transmitters.
All machines have Ball and Socket Bearings, with Hardened and Ground Working Parts.
MACHINE JOBBING.
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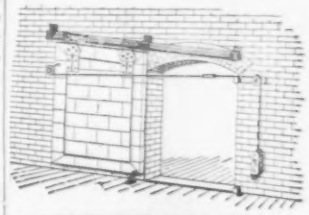
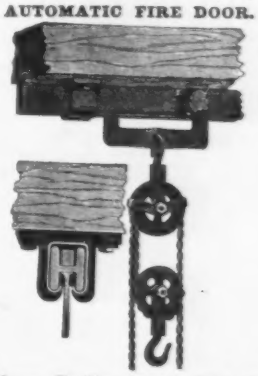
HICHEST AWARD
AT WORLD'S FAIR, 1893.

AUTOMATIC FIRE DOOR.

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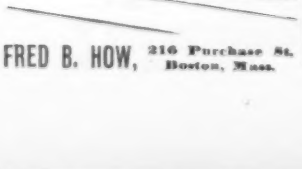

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RAG DUSTERS, NAPPERS,
Improved
CLOTH MEASURING MACHINES.
Lumper and Duster Cylinders Refilled and Repaired.

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—MANUFACTURERS OF—
The Bancroft Mule, The Clinton Yarn Twister,
The Murdock Drop Wire Stop Motion for Warpers.
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Sole Makers of the TORRANCE PATENT.
Self-Acting BALLING MACHINE,
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SCALES, REELS, YARN BEAMS
... AND ...
Testing Devices for Yarns and Fabrics.

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WOOLENS, Box 719,
Middleboro, Mass.

I have an unopened 5 gallon can of
Webster's Specking Ink
which I took in trade and will sell for 75 cents per gallon; regular price $1.50 per gallon. Address, XXX, care Textile World.

—Mathew Marr, formerly of the Tillokon Mill, Pittsfield, Mass., has secured a position as overseer of weaving with the Russell Mfg. Co, of that city.

—E. L. England, formerly of West Buxton, Me, is now overseer of weaving in the Binghampton Woolen Mill, Binghampton, N. Y.

—R Pilling has resigned as master mechanic, at Blackstone, Mass.

—Hugh McGovern has severed his connection with Stott's Mill, No. 1, where he was overseer of spooling, spinning and dressing, and accepted a more lucrative position at Harrisville, N. H.

—John Kavanaugh has taken charge of spinning in the North State Mills, Goldsboro, N. C.

—The Norfolk Woolen Co., of Franklin, Mass., have just added six improved Bramwell Feeds with the latest improvements for shoddy, built by Geo. S. Harwood & Son, Boston, Mass.

WOOLEN DEPT.

Worsted Spinning.

For the Textile Mfg. World.

The worsted yarn industry of this country has not advanced as far as it should in proficiency for numerous reasons, but the principal one has been on account of the unsettled policy of the government in regard to the tariff question. Men who invest their money in the yarn business do it when the party in control of the law making departments are high protectionists, making their investments then, feeling sure of receiving a fair compensation for the risk involved. But as soon as there is any indication of a change in the protective policy of the country the manufacturer becomes frightened, and endeavors to get his money out of the business as quickly as he can; the natural result of this is, that business has never been able to reach even the proper foundation. Manufacturers do not go into it with the idea of making reputations for themselves, as spinners, but with the sole purpose of making a large amount of money very quickly, thinking they have only four years to do it in. If the tariff policy of our country could be made to continue in force for ten or fifteen years without change, persons with capital could place it in business with the knowledge that it would not be disturbed by the politicians every four years, then industries as complicated as worsted yarn spinning would become strong, and well able to hold their own, with very little protection, against foreign manufacturers. Competition would regulate the price, and make the manufacturers more particular about the quality of their work. But such is not the case and does not seem likely to be for some years to come; in the meantime the manufacturers will go along as they have been, taking very little risk, and endeavor to make a fortune before free trade destroys them. The

WORSTED YARN INDUSTRY

is a very interesting one, and it requires close study and attention in all its details. First the wool to make the yarn must be selected with sufficient intelligence, the fineness of the yarn, and the use to which it is to be put must be taken into consideration, every process through which the wool goes, from the fleece until it reaches the spinning room in the roving, helps to make or mar successful spinning. It must be sorted with care, and the scouring requires a large amount of good judgment, as the fibre can be injured in this process to such an extent that it will be impossible to make good yarn out of it; the drying should not be overlooked, as too much drying is as injurious as not enough. The carding is the next operation, and a very important one. Good stock for worsted yarn can be damaged on the cards, so that it will be only fit for a poor grade of woolen yarn. For this reason some manufacturers object to carding their worsted stock, and use the preparers.

AFTER THE CARDING

or preparing, the wool is taken to the back-washer, and run through a weak scouring liquor, between squeeze rolls, and around drying cylinders until thoroughly dried, and the sliver is run into cans, and taken and run through gill boxes which make it a uniform thickness and straightens the fibre. It is then taken to a rolling machine and made into balls for the comb, the comb removes the short fibre, lumps, straws etc., which are called noils, from the long wool, which is called top, and straightens and lays the fibre parallel.

The top is run through a gill box after combing for the purpose of taking any twist out of the sliver which the comb has left in; it is then taken to a balling machine and made into balls, each grade of a uniform size and weight; it is now ready for the drawing room. It will be noticed the object aimed at in the combing room, in addition to removing the short fibre and foreign matter, is to have the sliver straight and of uniform thickness, and the fibres laid parallel, and this object will be sought all through the drawing room.

THE SLIVER,

as it is unwound from the tops or balls, will naturally have some twist in it. The first thing to be done in the drawing room, is to remove this twist, which can be done by taking the sliver from a number of balls, and running them together through a gill box; this will free it from all twist and at the same time help to make it of uniform thickness.

It is then run through another gill box, and wound on a large spool, is carried on the spool to the drawing frame, the sliver is taken from four or more of the spools and drawn together through the machine which has been fixed to make it weigh a certain number of grains to the yard, according to the grade of stock, and the number of yarn which is to be spun to; it is wound on a spool, and taken to the next machine, and the sliver is drawn finer and made to weigh a little less to the yard than before; it is put through the same process in every machine, being continually drawn finer and finer, until it reaches the roving frame, which is

THE LAST MACHINE

it goes through before it is carried to the spinning room.

The operation of the roving frame is really the same as the drawing frame, except being on a much finer basis. When the top is ready for the drawing frame the sliver is about three quarters thick and when it reaches the roving frame, it is about one thirty-second of an inch in thickness, and it is reduced still more in going through this machine and is wound on bobbins about 6 in. long with 3 in. heads and carried to the spinning frames.

The entire drawing operation is for the purpose of making the sliver uniform in its weight per yard, and at the same time to keep the fibre parallel. The person in charge of this department should understand his business thoroughly (it is very easy to regulate the machines for the purpose of making the roving any length desired), but the drawer must know, by examining the stock, just how far it is safe to draw it, or, in other words, how fine he can make his roving and leave it in good condition for spinning. If the

ROVING IS MADE TOO FINE

for the grade or condition of the stock, it will be impossible to make good yarn of it, as when it is spun it will not hold together, and if it did would not be strong enough for any practical use; on the other hand if the drawer knows the stock cannot be properly drawn to the size of roving required for a certain fineness of yarn, and he reduces it as much as he considers safe and leaves it for the spinner to do the rest, the spinner is apt to have considerable trouble to make good yarn out of it, as the spinning frame will have to do its own work, and the work of the roving frame too.

(To be continued.)

How to Fix Old Style Looms.

For the Textile Mfg. World.

A HARD LOOM TO FIX.

The adjustment of the various parts of looms becomes easier every year. New style looms are more readily fixed than the old. The big Crompton and Knowles works at Worcester, Mass., where the modern looms for weaving woolens, worsteds, cotton and silks, are made, employ skilled men whose duty it is to devise simpler methods of operating the different parts of the loom. For instance, one mechanic in one of the above shops told the writer that his principal business consisted in thinking out simpler ways of operating the shuttle boxes. No longer do fixers have to tinker with tappets, slides and similar intricate mechanisms, in order to make a loom weave fancies, but simply put on a new filling chain. This is one result of having special men study how to simplify special parts of the loom.

The harness motion has been greatly simplified. Wooden pegs are gone and now this part is all metal. But all these improvements apply to looms built within the past few years. Thousands of looms built before the war are in use. The owner of the country mills, and frequently proprietors of city mills and big corporations, have in use the remnants of earlier days. These looms are a source of trouble to the weaver, fixer and designer. Yet the mill owners cannot well afford to throw out a line of looms simply because they are old style. New mills have the advantage of having new looms, but most of our old establishments have a portion of their weaving apparatus made up of looms purchased way back in the sixties. If this be the case, it follows that in order to be a full built loom fixer, a knowledge of fixing old looms is as essential as a knowledge of new. If we are to apply the idea of fixing by rule to looms which the Worcester works are making to-day, the application is incomplete unless applied to looms which they made thirty years ago, because in five mills out of ten the fixer will find that he has a certain number of

OLD STYLE LOOMS

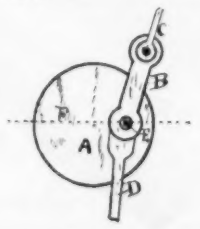
to handle as well as new. Hence we look at an old loom for a moment.

Fixers will all agree that the old Greenhalgh loom is a hard one to fix. The head motion appears to trouble them more than any other part. Hours are frequently lost in endeavoring to get a set of eight or ten harnesses to work right on some complicated pattern. Once the writer lost a job through his inability to fix the head motion of one of these looms. The jacks conflicted and made miss-picks. The weaver had to pick out continually. The more I did to the loom the worse it went. I worked all one evening on it, after the others had gone. I broke several gears and parts of the head. There were fifteen other looms of the same make in the room, and rather than see them all put out of order by a green hand the overseer told me to quit. Since then I have had a section of these looms to run and I know how to run them.

There may be others whose jobs are liable to be sacrificed through lack of knowing how to handle the hardest part of a hard loom, and so the rule for fixing the same is here given.

RULE TO SET THIS PART.

A cut is needed to explain what to do about adjusting this part of the harness motion equipment.

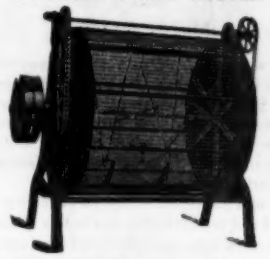


WHERE THE TROUBLE IS.

In this drawing, *A* is the crank plate, which is attached by key to crank shaft of loom. *B* is the peculiar part which gives that remarkable over-swinging motion to the chain cylinder rod *C*. This rod, *C*, is attached to the pawl and gear on chain cylinder shaft, and gives motion to latter at every turn of the crank shaft. *E* is the nut on a stud and it is this part which causes all the trouble for the fixer. *D* is the connecting rod between the dwell motion plate, below, and the crank shaft plate *A*. Unless all the parts of this somewhat complicated motion are adjusted just right there will be trouble.

If a little too soon the jacks of the head motion will conflict with the chain balls and there will be a general mix up

IMPROVED WASTE DUSTER



For Cleaning Wool Waste. Superior to any now in use. Manufactured by the Stillman-Rich Machine Co., Westerly, R. I. Send for circular.

If set too late, the result is as bad. There is but one way to set this part and that is the right way.

A RULE FOR THIS IS:

Push the lay of the loom as far back as possible. Have the cranks back to their fullest extent. When the lay is way back the stud *E*, which is in quite a long slot, should be in the position shown in cut. The relation of this position to the centre of the plate is described by the dotted line *F*. Get the parts in this position, then loosen the nut on stud *E*, set the arm *B* at an angle of about 90 degrees as seen in cut, and then tighten up the nut as tight as possible without breaking the threads on same.

According to all laws of loom-fixing, as regards this part of the Greenhalgh loom, an adjustment as above should be just right. This is the rule, but of course various work calls for various adjustments.

If knotty, easily chaffed and hard-to open yarn is in the warp, then the operation of the entire work must be little sooner. A light tip with the hammer will move the adjustment ahead sufficiently far to cope with this. Smooth, hard, tough yarns will work all right if adjustment is later, and so on, but the above is the standard rule as adopted by veterans, and as applied by the writer for a number of years while fixing a section of these looms. Had the latter known this rule when he undertook to fix the above mentioned looms for the first time, the difficulty in the weave room, which resulted in his discharge, would have been averted.

Notes on Yarn Making.

One of the things which the individual responsible for the yarn-making department of a woolen manufactory has carefully to guard against, is difference of price in the various colors of the supposed same quantity of yarns for a special cloth which must be delivered to the buyer at a uniform price. In the keen competition for orders it not infrequently happens that a cloth is calculated on the basis of cost price for those colors which are expected to be most in demand. There may be one, or perhaps two shades prospectively a little more costly than the average, but it is conjectured that these may be required only in limited quantities; and the yarn maker is aware that to forward his price for the average on the basis of the most expensive colors, might be to put the cloth out of the race with his competitors. But when the samples are made and the order is accepted, it is sometimes found that the buyer makes a special demand on the very shade that is most expensive. If the manufacturer in these circumstances were, even in self-preservation, to begin to redeem the price by other means, he would jeopardise his business. So-called "slating" is a bad paying game. To endeavor to meet the case by deteriorating the cloth by any means, either in weight or quality, is a suicidal policy. It is, therefore, of the utmost importance to bring in the varied yarns for a particular cloth as near the estimated value as practicable, but in no wise to acknowledge being caught napping by lowering the standard set up in the sample.

For a supposed complement of colors for twisting to another thread, say to a black, of a medium quality, we take a selection of shades which should meet a uniform requirement in quality and price, as follows:—The same quality of wool and cotton may be dyed to the various shades submitted. The varying prices and quality of the remaining material to be added are easily simplified by the fact that the higher the price the better the quality which makes about equal weight of yarn, not losing weight in the scrubbing process, as is the case with material of a heavier and cheaper character.

For a thread to be spun to 25 skeins for twist, the proportions suggested are:—

LIGHT OLIVE 25's.

			s.	d.	s.	d.
Olive wool	2 lb. at	1	9	=3	6	
Olive cotton	2	"	0	9	=1	6
Shawls	8	"	0	6	=4	0
	12				9	0

BROWN 25's.

			s.	d.	s.	d.
Brown wool	2 lb. at	1	9	=3	6	
Brown cotton	2¼	"	0	9	=1	10½
Comforters	7¾	"	0	5½	=3	7
	12				8	11½

FAWN 25's

			s.	d.	s.	d.
Fawn wool	2 lb. at	1	9	=3	6	
Fawn cotton	2¾	"	0	9	=1	3¾
Fawn stockings	8¼	"	0	6	=4	2
	12				8	11¾

LAVENDER 25's.

			s.	d.	s.	d.
White wool	1 lb. at	1	6	=1	6	
Blue wool	1	"	1	9	=1	9
White cotton	2¼	"	0	7	=1	5¼
Light grey stocking	7½	"	0	6½	=4	3
	12				8	11½

BLUE 25's.

			s.	d.	s.	d.
Purple Berlin	6 lb. at	0	10	=5	0	
Blue cotton	6	"	0	8	=4	0
	12				9	0

WHITE 25's.

			s.	d.	s.	d.
White wool	2 lb. at	1	5½	=2	11	
Raw cotton	3	"	0	8	=1	0
White flocks	7	"	0	7	=4	1
	12				9	0

The foregoing may not be at all times an infallible measure of proportions obtainable at fixed prices, considering that qualities of raw material are subject to great changes; but the principle for general guidance is of the greatest value to the yarn maker.—[Textile Manufacturer.

The Contract of Employment.

The contract of employment is one of the most common in business transactions, and the one about which there is, as a rule, the least proportion of litigation. However, there are some technical rights and obligations which the law imposes, and which are not thoroughly understood. For this reason, though the subject may be somewhat trite, it is one to which any business man may profitably turn his attention once in a while.

The ordinary contract of employment, as that term is understood in business circles, is purely a matter of agreement between the parties. Our law does not, as a rule, recognize the old common-law apprenticeship, in which the contract, on the part of the apprentice, was neither made by him, nor, usually, for his benefit. A parent however, in this country, is entitled, in most states, to the earnings of his minor children though that right exists only as between the parent and the child, and not as between the parent and the employer of the child. That is, the parent may lawfully take the earnings of a minor child away from it, and upon giving notice of such claim in advance, may take them from the employer. In the absence of such notice, payment to the minor is a discharge of the employer's liability. If however, notice is given to the employer that such wages will be claimed by the parent, the employer is liable to the parent though he has paid the employe. Aside from this exception in the employment of minors, the transaction is wholly between the parties to it.

As a rule it is a specific contract, as distinguished from an implied contract, though there may be cases in which this relation is created by implication. But, practically speaking, it is a specific contract in which the details are agreed upon.

IT MAY BE EITHER WRITTEN OR ORAL

as our law makes no distinction between these two kinds of contracts, except as they are affected by the statute of frauds. Under that statute, a contract of employment, like any other, which by its terms is not to be performed within one year, must be in writing, to be valid. The distinction that "by its terms it is not to be performed within one year" must be borne in mind. For instance, an agreement to employ a man for five years, is clearly by its terms not to be performed within one year. But a contract to employ a man to superintend the construction of a building until its completion, though it may have been well known to all the parties that it would be for more than a year, does not disclose that fact by its terms. The first must be in writing, the second need not be. With this exception the only difference between a verbal and a written contract goes to the question of proof and not validity.

If the contract is in writing, when its execution and authenticity have been proved, it is evidence of the matters expressed in it. If it is verbal it must be proved in detail, by a preponderance of evidence on the part of the person seeking to enforce it.

IN SEEKING TO DISCHARGE AN EMPLOYE

who is without fault under the contract, where the term for which it was to run was not clearly agreed upon, a question arises as to when and upon what notice it may be terminated.

If the contract was entered into for a specific term, of course it terminates upon the expiration of that term. If it was not made for a specified period, the law implies that the measure of wages is the measure of time. If the pay is determined by the day, the contract is from day to day; if the pay is measured by the week, the contract runs from week to week, and so if the pay is monthly or yearly, that is the implied period of the contract, and the burden is on the employer to show affirmatively that it was otherwise agreed. It matters not how the payments are made, the question is by what quantity of time they are measured. That is, if the salary agreed upon be a hundred dollars a month, the payment of twenty-five dollars per week in four week months, will not establish a weekly hiring, and if the agreement be for twelve hundred dollars a year, the payment of one hundred dollars monthly will not establish a monthly contract. In the absence of other agreements

THE MEASURE OF PAY IS THE MEASURE OF EMPLOYMENT.

But if a further agreement is made as to duration, then the measure of pay has no effect in determining the length of the contract. That is, if an agreement is made at one hundred dollars a month for one year, the fact that the pay is measured by months does not make it a monthly contract.

When a valid contract has been made, either party may recover such damages as he sustains by reason of a breach on the part of the other. This is as much true as against the employe if he leave before the time of service expires, as it is against the employer for wrongful discharge. While these fundamental principles of this very common contract are so well known that it might seem needless to reiterate them, the cases which are litigated in the courts would seem to indicate that they are so well known in many cases, as to be overlooked, and it may therefore be of value to some to bring them again to mind.

Future of Aluminum.

When we consider that some of our common metals antedate history, that we cannot yet consider that the extraction, manufacture and use of these metals has reached a complete or finished state, notwithstanding the thousands of years that they have been wrought and that even now enormous sums of money and vast efforts are being expended to perfect them, the slowness with which aluminum has developed should not be wondered at, notwithstanding that one year now may mean as much as many years in the early days of the other metals.

We take many things for granted regarding our common metals that undoubtedly required much time and money to establish; but that was so long ago that we fail to take account of it now. The commercial production of aluminum is not yet forty years old and its production in considerable quantities scarcely four years old, yet many of its critics ask as much of it as though it had been in use every day for at least four hundred years. Shall we have an aluminum age? In the extravagant sense in which that expression is often used, that aluminum will replace and drive out all other metals for most purposes, or in the same sense that we speak of the stone and bronze ages, I think not. But that aluminum will play an increasingly important part in the metal world in the future and be very freely and commonly used, I have not the slightest doubt.—[From a lecture by F. F. Dewey.

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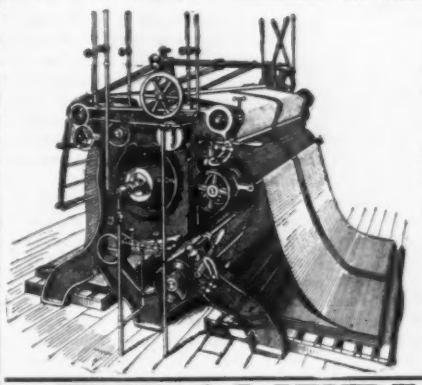

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Flax.

Flax thrives in situations from the sea level to very high elevations. It is cultivated in Russia, Italy, Australia, Belgium, and other European countries, as well as in Egypt, Turkey, India, and China. When grown for fibre it gives a small quantity of seed, but as a seed crop it yields only a coarse fibre.

Flax grown from fibre alone, in Ireland, costs about $50 an acre for both cultivation and preparation. Irish flax growers pull their crops before the seed is formed, to obtain a better quality of fibre. It is proposed now to sacrifice something of the value of the fibre by allowing the seed to mature

An increased impulse to flax culture in Scotland seems likely to be given by the invention of machinery for scutching the flax. A well known firm in Leeds is manufacturing a newly invented machine which is said to work to perfect satisfaction, yielding a good fibre, with very little tow, and without breaking or damaging the tenderest fibre of the flax.

—T J. Digby has resigned his position as overseer of weaving with the Whitney Mfg. Co., Whitney, S. C., and accepted a similar one in the Clifton Mill, Clifton, S. C. Mr. Digby was the recipient of a rocking chair, presented by the employes of the weave room.

—The firm of Wm. E. Peck & Co., 62 and 64 William St., New York, who have for the past ten years been so intimately identified with the development of the export of United States manufactured products to the countries south of us, as well as to Australasia, have brought out in conjunction with their business, Peck's Export Purchase Index, a publication which possesses many features of value for houses engaged in this business, while for the recipient in a foreign country, we should consider it a very great convenience, in enabling him to trace at once the manufacturer of any line of goods of which he is in need. Such strong experienced hands as Messrs. Peck & Co. in this addition to trade journalism, are bound to succeed.

—Messrs. M. Webster & Co., of La Crescent, Minn., are just starting up a new Apperly Feed, built by Geo. S. Harwood & Son, Boston, Mass.

—Messrs. Geo. S. Harwood & Son are building four 60-inch Bramwell Feeds of the latest improved construction, with special improvements for shoddy, to go on new Furbush Cards for the Garfield Woolen Co., of Passaic, N. J.

—Messrs. E. C. Caswell & Co., of Bloomsburg, Pa., are putting on two of the latest improved Apperly Feeds, built by Geo. S. Harwood & Son, Boston, Mass.

Satinet Printing and Dyeing.

EDWARD TURNBULL.

V.

A system of dyeing has very recently been introduced for satinets (though it is just as applicable to other goods dyed in the piece) which consists of a machine specially constructed for that purpose, run in conjunction with drying cylinders, or any other system of drying, such as hot air from coils of pipes heated by steam.

The piece goods joined together as for printing, can be passed through the dyeing machine; this machine is geared directly with the drying apparatus, and partially dried; they are then ready for the steaming; washing follows; drying, shearing, and pressing makes a rapid, effective, economical process of dyeing, which in the near future is destined to supercede the slow method now in use.

This process has been in operation for the past nine months, with unqualified success, and has dyed in black alone over a quarter of a million yards. One machine can dye 6000 yards per day, and run them twice through. This method has a future before it of great importance, as it renders things possible which have not been thought of.

This rapid and economical means of dyeing deserves more minute describing. First, being

ALMOST INSTANTANEOUS

in its working, its goods are passed through the machine twice to produce the more dense colors, the first time to dye the cotton or mordant the wool, or in some instances both at one time, the second to dye according to shade required.

Satinets, being mixtures of cotton and wool, this separate cotton and wool dyeing is indispensable; but as the machine runs rapidly, and the goods are dried at the same time, they are ready for the wool dye immediately after receiving the cotton dye or mordant.

Various mordants can be used, such as bichrome of potash, acetate of chrome, dilute logwood extract, soluble oil, sulphate of soda, bisulphate of soda, sumac, iron liquor, chlorate of potash, acetic acid and others. Most of these are compatible and can be mixed together in any proportion, for the effect desired, but only experience can give just the exact formula for any specified result. For good practical working these substances, on being prepared, are thickened with a little starch, as the cloth in passing through the bath takes up the coloring matter more readily when the bath is thickened a little.

In the dyeing of black, a mordant is made up from acetate of chrome, extract of logwood, chlorate of potash (or more preferable chlorate of soda), made acid with a small quantity of acetic acid. This serves

THE DOUBLE PURPOSE

of dyeing the cotton, and mordanting the wool. After passing through this first bath and drying, or in this instance partially drying, they are immediately ready for the second run through the bath with a coloring matter made up from logwood extract and nitrate of Iron. It is only necessary to partially dry the goods after this second operation for they pass immediately to the steaming, and steam all the better for being damp.

This dyeing is all done with a cold dye bath, herein lies one of its virtues, for the goods suffer practically no depreciation from punishment. After steaming and washing and passing through soap bath, the goods are dried and finished.

In other colors, the various anilines etc., the bath is made up according to the shade required by dissolving the coloring matter in water and bringing to the desired tint by diluting with water and starch, running through the dye bath, drying, steaming, washing, soaping, hydro extracting, again drying, and finishing.

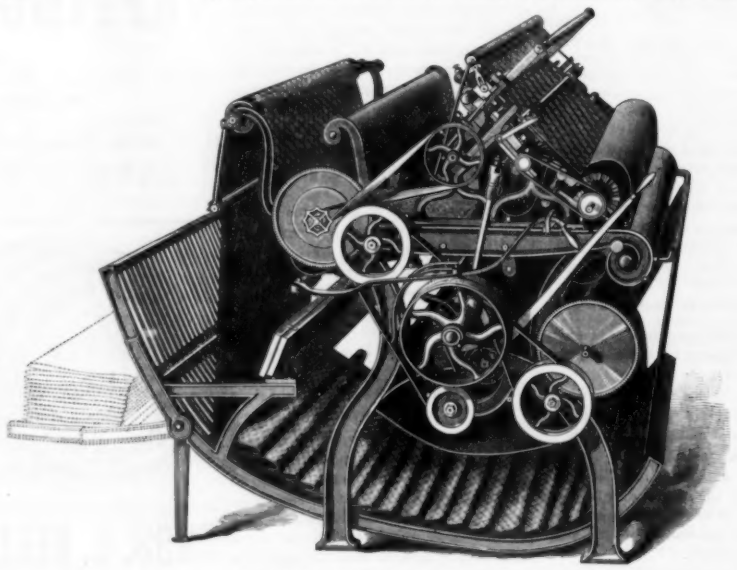
(To be continued.)

—John W. O'Brien succeeded James Hamilton, resigned, as overseer of weaving in Tilton, N. H., mills.

Improved Cloth Shearing Machinery.

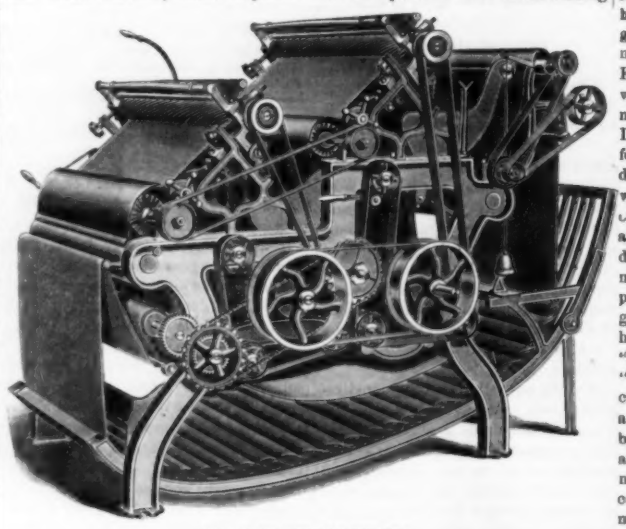
We illustrate the Parks & Woolson Machine Co's. shear and their new double shear in this issue. This line of machinery has a splendid reputation and is in very extended use throughout the woolen mills of the country; the meritorious principles of its construction have always commanded the approval of finishers and manufacturers.

The shear has recently been greatly improved. One feature which is shown in the illustration is the patent self-extension rest, which saves both lists without attention. This is claimed to be the only shear which will do this. The self-operating rest which is now used is of entirely different construction from the old kind. The working parts are made of steel, the joints are square, and so perfectly fitted that no space is left for dirt to get in.



THE PARKS & WOOLSON SHEAR.

The blades are made of the choicest stock, which is carefully tested. The fly-blade is run with an open belt, instead of a "cross" belt, as formerly. The brushes are of a superior quality, with flock pan under the raising-brush, as well as the laying-brush. Brown's revolving brush-rest and flock protector effectually cleans the back of the goods, which prevents the cloth being damaged by flock-holes. The improved scray that holds and guides the cloth under the machine enables the operator to run one string in while the other is coming out. There are many minor improvements made, that make the machine much more efficient and convenient than ever before. This shear is built in four sizes.



THE NEW DOUBLE SHEAR.

The second illustration shows their new double shear. This has two sets of cutters and two sets of brushes complete, and the claim is made for it that it will do twice the amount of work that a shear with one set of cutters will do, while requiring only one operator to run it. The blades, brushes and workmanship generally about this shear are about the same grade as employed in their best shear. This double shear is arranged with special care for convenience in operating, being very easy to tend. The front as well as the back set of blades can be raised by the operator to allow the seam to pass, while he is standing directly in front of the shear. The great capacity of this machine for work, coupled with the fact that it takes up very little more space than a single shear, and only one operative to take care of it, seems to indicate that this style of machine is destined to be the coming shear, and there has been a constantly increasing demand for it. The patent list saving rests may be applied to this type of machine if desired. It is built in five different sizes.

The Parks & Woolson Machine Co., of Springfield, Vt., who are the builders of these shears, publish a very interesting catalogue of finishing machinery, which should be in the possession of every finisher, as it contains full description of their very extensive line, together with instructions in regard to grinding and setting their shears, and explicit directions for their proper use.

House Rents and Living Expenses in England.

Consul Burgess, at Tunstall, submits to the State Department, at Washington, an interesting report on cost of living, from which we extract that portion which deals with house rents and kindred topics.

He also presents some tables bearing upon other household expenses, making up the cost of living, in which he shows that the claims of free traders as the greatly increased purchasing power of a dollar in England, as compared with the United States, are unfounded.

In regard to clothing, he says that material, fit and general finish considered, in the cheaper grades such as are worn by the working classes, one finds very little difference. Likewise, in the cost of food, his tables show, if anything, that the general average is lower in this country than in England.

About house rents Mr. Burgess says, "in the United States we consider the rent paid for the house a fixed quantity, and the fact that a house in Trenton, containing six or seven rooms, rents for $8 per month, and a similar one as to the number of rooms in Burslem rents for $4 per month, would at once strike one that the difference in house rent was very great. In England, however, there are other expenses to be paid by the tenant, and the difference in the construction of the house in itself entails additional outlay.

What does the workingman get for his $8 in Trenton, and what does he get for his $4 in Burslem? In the former he has a house with a good cellar under the entire house; hot and cold water in his kitchen, and in many cases in other parts of the house; closets in almost every room; gas; and generally a nice little garden, the size depending on the part of the city. In the latter, in many cases, a set of brick walls, built upon the surface of the ground, with only a shallow foundation. Where there is a cellar it is only a small one under one room, a cold-water tap, sometimes inside and sometimes outside the kitchen; no closets, necessitating the expense of "dressers" wardrobes, or movable closets of some sort on the part of the tenant; sometimes, but rarely, gas; and if any yard, a small one entirely paved with brick.

Beside the rent of $4, he must pay all rates, taxes, church tithes, and water rates on the property, and must keep the house in repair inside and leave it in good condition. There are other elements entering into the cost of living in England which may be named here, of which the American workman knows nothing, viz, stamp duties, licenses, etc. If he wishes a lease or perhaps a deed for the property, he must have said document stamped by the Government with a stamp of the value of from 15 cents to $2.50, according to the rental agreed upon. If he desires to go into domestic service, he or his employer must pay a Government license of $3.75 per annum. If he has a bright, intelligent son with a taste for the law, before he can become an indentured clerk to a "solicitor," he must first pay the "Crown" the sum of $400, and after completing his studies he must take out a further license at the cost of $250 before he can present a case in court or at the bar. If he wishes to become a notary public, he must be at a further cost of $150. If, however, the young man's tastes run toward medicine, a license fee of $50 is required before he can practice. There are perhaps more whose tastes run in the direction of matrimony; a special license for the same costs $25.

If the English workman has a little savings in the bank, he must pay the Government 2 cents for every check he draws. He must pay the same for every receipt he signs of amounts over $10. All notes or due bills must also bear a Government stamp of from 25 cents to several dollars, according to the amount. If he keeps a dog, he must have an annual Government license of $5 for each canine. If he keeps a gun, he must show a $2.50 license, and to shoot winged game he must pay $15. If he be a tradesman who keeps a horse or pony and wishes to keep a carriage for the pleasure of his family, he must pay the Government $2.50 per wheel per annum. Thus we find many more two-wheel than four-wheel carriages throughout all England. These, and many more of a like kind, are incidental expenses not often taken into consideration when comparing the costs of living, and might fairly be classed under the head of rent, as every householder feels them to a greater or less extent, and they become part of the annual cost of living, although not coming under the head of clothing or food.

Damages Recoverable for Wrongful Discharge.

A servant who has been wrongfully discharged by his employer before the time for which he was hired has expired, has these remedies:

First, he may consider the contract as recinded, and recover what his services were worth, deducting what he had received for the time which he had worked.

Second, he may wait until the end of the term, and then sue for the whole amount, less any sum which the employer may have a right to recoup.

Third, he may sue at once for breach of the contract of employment.

He, however, can adopt only one. If he adopts the third remedy, he can recover the damages which he has sustained down to the day of the trial, which is limited to a compensation for the injury suffered by the breach of the contract. The loss of the wages which his employer agreed to pay him constitutes the injury. What, therefore, he has suffered by reason of the loss of the wages as a rule, is the amount of the damages he is entitled to recover. It is the breach, and not the time of the discharge, or when the action was brought that gives the damage.

If the consequences for which the law renders the employer responsible, develops so as to create an absolute injury at the time of the trial, he is entitled to a compensation for such injury. He cannot recover the damages he might suffer after the trial, for the obvious reason, they cannot be assessed in advance; for he might after the recovery of the judgment obtain employment from other persons, and receive from the residue of the term for which he was tried in the first instance as much as, or more than, he would have been entitled to under the broken contract, had he served his time out, or he might die before his term of service expires, and in either event, recover more than the law allows, which simply intends to save him from actual loss by the employer's breach of the contract.

Van Winkle *v.* Satterfield. (Supreme Court of Arkansas.) 25 S. W. Rep. 1112.

Aluminium in Textile Machinery.

The application of aluminium to different parts of textile machines—for instance, of looms—is spreading more and more. Shuttles and similar objects are already made of aluminium; and very recently the metal has been applied to the cutting apparatus of plush and velvet power-looms. M. Faure, an Austrian manufacturer, has the whole of the cutting apparatus made of aluminium, and finds that several advantages can be gained in this way, especially in reference to lightness and strength. In older methods the weight is disagreeably perceptible, and the speed of the apparatus is thus considerably interfered with, as well as its stability. These drawbacks have repeatedly led to unsatisfactory results. The apparatus previously in use worked backwards, with the help of an endless catgut string, and was exposed to serious shocks. It was therefore found advisable to abandon steel and iron and resort to hard wood. The weight is undoubtedly diminished in this way, but still it is too great, and the parts easily alter their position and shape, and soon wear away. Aluminium, on the other hand, is liable to none of these defects; it is light and stable, and it may be safely affirmed that a wide field for its application is opened up in this direction.—[Textile Mercury.

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COTTON DEPT.

Designing and Weaving of Fancy White Goods.

For the Textile Mfg. World.

In designing patterns for this class of goods, the designer will be compelled to depend almost entirely on the weave to obtain different effects. The warp and filling being all white makes this a necessity. There is another help however, and it is one that cannot be despised, namely, the manner in which the warp is reeded. In some patterns it is necessary to have some parts of the reed with two ends in a dent, while other parts may contain three, four, five and six ends. Six is generally the highest number, it being very rare when more than six are used.

Nearly all the fancy white goods that are made, have for the body or ground of the fabric the regular cotton weave, one up one down, while the stripes both in the warp and filling are woven with a twill or sateen weave.

Almost all the mills engaged in weaving this class of goods use a head motion known as a "dobby." The Crompton and Stafford dobbys are used to a great extent in this country. These goods being woven with one shuttle, allows the looms to be

RUN AT A VERY HIGH SPEED,

for which the dobby or head motion is specially adapted. These dobbys are made to fit on any kind of a loom, so that it is quite common for mills to put these head motions on their plain looms, and use them thereafter for fancy weaving.

The yarn used varies from 40's to 70's, the most of it being between 50's and 60's. There are also large quantities of two ply, four ply and sometimes six ply yarn used in making cords and stripes. The filling will range from 60's to 90's. The texture of the fabric in the plain part will vary a great deal, 60×60 to 96×80 according to the weight desired. The width is 27 and 28 inches, though goods made specially for aprons will run to 40 and 42 inches.

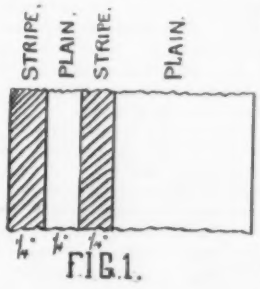

FIG. 1.

The first division of these fabrics to claim the attention is the stripes; these are the easiest to arrange and will be easily understood. Suppose there is a pattern to be made like Fig. 1, the plain part of the design to be 80×72, the stripes to be woven with a six harness sateen weave.

It will be found that the rule for working out sateen weaves will not bring the desired result for six harness, but Fig. 2 shows a six harness weave which is used to a great extent in this class of goods.

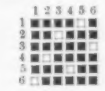
FIG. 2

IF A GOOD HEAVY STRIPE IS WANTED

the best thing to do is to put six threads in a dent for the stripe. This being decided upon, the next thing is to find how many ends will be needed in the warp. The pattern is 1 3-4 inches wide, and as the reed contains 40 dents to the inch, one pattern will contain 70 dents. Suppose the cloth is to be 27 inches; in 27 inches there will be 40×27=1080 dents in the full width. 1080÷70=15+30, that is 15 full patterns and 30 dents over, take five dents on each side for selvage and there are 20 extra dents left. These can be used up by putting them on each side of the first and last pattern. In most mills the reeds used are made to allow for shrinkage in weaving, so that it is only necessary to figure for the actual width. Now find the number of ends in one pattern by this process.

1 inch plain=40 dents 2 ends in a dent=80 ends
¼ " stripe=10 " 6 " " " =60 "
¼ " plain=10 " 2 " " " =20 "
¼ " stripe=10 " 6 " " " =60 "
220 ends

This gives 220 ends in one pattern. 220×15 the number of patterns=3300 ends. 40 ends for selvage, 40 ends to fill up extra dents, left over even patterns=3380 total number of ends for warp.

The next thing to get ready is

THE DRAWING IN DRAFT.

Put the threads for the plain part on the first four harness, and the threads for the stripe on the last six, thus making a total of ten harness. Some make their drawing in draft out on regular designing paper, but it can be understood just as well when made out in the following fashion. Notice that the draft begins with half the plain part of the pattern, with half the extra threads over, even patterns added.

DRAFT.

20 double ends, 2 double ends in a dent on 1, 2,3, 4. Start and end with 60 ends 2 in a dent on 1, 2, 3, 4.

60 ends 6 in a dent on 5, 6, 7, 8, 9, 10
20 " 2 " " 1, 2, 3, 4
60 " 6 " " 5, 6, 7, 8, 9, 10
80 " 2 " " 1, 2, 3, 4

Repeat fifteen times.

The pattern chain for this pattern is shown in Fig. 3.

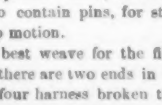
FIG. 3

THE WORST FEATURE ABOUT THESE STRIPES

is the fact that the filling is apt to catch on the warp threads in the stripe and make what are known as filling kinks. Unless the shed is perfect there will be trouble of this kind, therefore see that the harness are hung properly and that they are making a clear even shed. Stripes are often made by using a two or four ply yarn, then it is not necessary to put so many threads in a dent. Twill weaves as well as sateens are often used for these stripes.

In making patterns for plaids proceed the same as with the stripes to find the number of warp ends. It is the filling stripe that will give the most trouble in these patterns, there being only one shuttle. To get the stripe in the filling, stop the take up motion from working, so the filling threads may be beaten up very close. To do this a wire is attached to the pawl that pushes or pulls the ratchet gear, and is fastened at the other end to one of the levers that work the harness. Whenever the weaver requires

THE TAKE UP MOTION TO STOP,

a pin is put in the chain at the proper place and the pin lifting the lever pulls the wire that is fastened to the pawl, lifting it up. Now the question will arise, how often to stop the take up motion, while weaving the stripe? Suppose the stripe in the warp is the same as in Fig. 1, to make the filling stripe compare with it there will need to be nearly as many picks in 1-4 inch as there are warp threads in the warp stripe, which is sixty. It will be found that 54 will be enough however. Suppose there are 72 picks per inch, in 1-4 inch there would be 18, but there needs to be 54. The ratchet gear is taken up one tooth every two picks (some take up one tooth every pick, but two is better), therefore it will move nine teeth for every 1-4 inch of cloth woven, and to get 54 picks in that space there must be 6 picks for every tooth taken up, so that out of every six bars in the pattern chain, four of them will have to contain pins, for stopping the take up motion.

The best weave for the filling stripe where there are two ends in a dent will be the four harness broken twill shown in Fig. 4 on the 3, 4, 5, 6 harness.

In making

THE PATTERN CHAIN

for plaids of this kind, to have the warp stripe pass smoothly over the filling stripe, the weave must be made to run just double what it is in the plain part, that is if weaving a five up and down weave when it comes to the filling stripe it must be made ten up two down. Fig. 4 will also explain this.

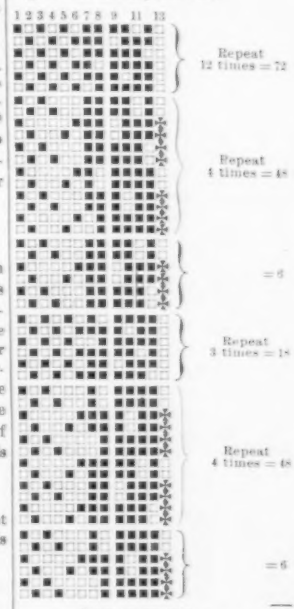

FIG. 4.

There must be two extra harness allowed for selvage on patterns like this, otherwise there will be a bad selvage when the filling stripe is being woven. Fig. 4 will show the harness chain complete for weaving a plaid from the stripes shown in Fig .1. Thecharacter in Fig. 4 on the 13th harness show where the pins should be put in to stop take up motion.

Chats on Cotton Combers.

V.

For Textile Mfg. World.

"I have weighed one yard of lap from the lap machine, and it is all right; it weighs 200 grains," said George to the overseer. "Very well," was the reply, "we will get the ribbon machine ready. First, spread the rollers. Put the second roller 1 13-16 inches from the centre of the front roller to its centre. Now, put the centre of third roller 1 7-8 inches from the centre of second roller, and the centre of back roller 1 15-16 inches from the centre of third roller. When the rollers are set, take the gears and obtain the dividend and draught. I want to get a draught of about six on this machine. The following are the gears for taking the draught:

1¼ inches diameter of back roller.
22 gear on back roller.
33 double carrier gear.
35 double carrier gear.
18 gear on third roller.
60 gear on other end of third roller.
60 to 85 change gears.
115 double carrier gear.
20 gear on front roller.
75 gear on end of front roller.
62 gear on main shaft.
23 gear on main shaft.
64 gear on small shaft.
18 gear on small shaft.
18 gear on back calender roller.
36 other end back calender roller.
47 gear on front calender roller.
4 inches diameter of front calender roller.

"Now," continues the overseer, "take those alternately, driver and driven on, multiply all the drivers together (with the exception of the change gear), and then multiply all the drivens together. By dividing this product of all the drivens by the product of all the drivers (excepting the change gear), and then dividing the quotient so obtained by the draught required, the gear to produce the said draught may be obtained, thus:

Multiply the driven
22×35×60×115×75×23×18×36×8,
and the drivers

3×33×18 (leave out change gear) ×20 ×62×64×18×47 and dividing product of driven by product of drivers gives 397.11.

397.11÷6, the draught required,=66 gear required.

"Put on a 66 gear, then weigh 1 yard of lap. It should weigh 200 grains×6 laps each weighing 200 grains per yard going in at the back of ribbon machine with a 6 draught should come out 200 grains, thus: 200×6=1200÷6=200 grains."

"I want you to watch the boy at that lap and ribbon machine; see that the rollers are oiled every morning, for if they are neglected it will cause the lap to cut or come through in thick and thin places and cause uneven work. Also see that all the

CLEARERS ARE KEPT VERY CLEAN.

The rollers are spread so far apart that if the waste is allowed to accumulate on the clearers, it will drop down into the work, and show further on in the form of slugs or bunches.

"After you have weighed 1 yard off this ribbon machine we will proceed to get a Curtis comber ready for it." First, take off the lap tins, then the back tins over the doffer, take the comb and doffer out, loosen up all the nuts on the rods, look at all the cushion plates; if any of them need re-covering take them out and send them to the roller shop. Take out all the top combs that have any needles out and put new ones in, also take off the springs. I will leave you for awhile, when I come back we will get ready to set the comber."

When the overseer returns George reports that he is all ready to proceed.

"Well," says the overseer, "set the cushion plate up to the lip of nipper, loosen up the check nuts and

ADJUST THE CUSHION PLATE

by means of set screw behind it until it is about 3-1000 of an inch from the lip of nipper. The best way to gauge it is to take a piece of writing paper, put between the cushion plate and nipper, turn set screws until you can only just draw the paper out. Set all the cushion plates and then set the rocker motion, having first taken the precaution to tighten up all the check nuts.

"To set the rocker motion, loosen the check nuts on stands, then loosen check nut on the set screws on the cradles or rocker motion that strike against the stands, then loosen every other one of these set screws. Now get your 19 gauge, also your 1 1-4 in. gauge and your step gauge; set your cushion 1 1-4 inches from fluted detaching roller by your 1 1-4 gauge."

"What set screws do you use to set the cushion plate so?" asks George.

"You see those set screws that strike against the front of the stands; they are the ones; by turning them to the right you draw the cushion plate away from detaching roller, and by turning them to the left you bring the cushion plate nearer the roller," replied the overseer.

"ONE END OF THIS CUSHION PLATE

is nearer the roller than the other, what shall I do about that?" asks George.

"I will show you," answered the overseer.

"Set one end of the cushion plate to the 1 1-4 inch gauge, now I will go around to the back and loosen the nut that holds the stand in place (you see there is a slot made in the large bracket so that the stands may be moved backward or forward as the case may require). Now move the stand until this end of the cushion plate is on a line with the other end, this is done by putting the 1 1-4 gauge in and moving the stand until the cushion plate just touches the gauge; now I will tighten the stand up. Now take your step gauge and put the second step (which is 5-16 of an inch thick) between set screw and the stand. Now turn the comber until the segment is under the nipper.

"Get your 19 gauge and set the nipper to the segment by it, using

THE SET SCREWS

that go down through the stands for that purpose; if you have to set the nipper up or down try the cushion plate again with the 1 1-4 inch gauge, as every time the nipper is moved it disturbs the setting of the cushion plate and vice versa, but by setting them alternately they will both soon come to their respective settings, then tighten up the check nuts on the stands and set the other 5 rocker motions like this one, after which get a piece of paper and put it between the set screw and the stand of the ones that are set, then tighten the check nut, then set the set screws that are loose to a piece of paper and tighten all check nuts."

(To be continued.)

How to Test the Finish of a Cloth.

When it is desired to find out what treatment has been adopted in the finishing of a cloth, a sample should be examined to ascertain whether it was lustered, calendered or sized on one or both sides, and by looking through it, it will easily be seen whether it was sized only, or sized and weighted, and how. If it was heavily sized, it is hard to the feel but becomes softer as it is rubbed between the fingers, and if a sizing with weighting was used, dust will fly from the material when it is being torn.

By using a strong magnifying glass, it may be ascertained whether the finishing agents lie only on the face of the fabric, or have penetrated the body of the cloth, and also if mineral substances have been employed in their composition. The external appearance of the cloth will enable an expert to judge the kind of finish, and the moisture percentage must be ascertained. A sample of the material must be weighed and left in a drying box until a decrease in weight is no longer noticeable; this, however, does not indicate certainly the nature of the finish, but a great

DECREASE IN WEIGHT

does denote a good percentage of finish.

To find the quantity of finish in the cloth, a weighed sample is washed in distilled water containing malt, and dried, and then weighed again.

The difference in weight tells how much starch, dextrine, etc., there was in the piece. To test the cloth for the percentage of soap in the finish, the sample is boiled in water, passed through boiling acid, washed, dried, and weighed. The loss shows the quantity of finish, if the sample is not dyed, for which a treatment with acid can only be used.

After having ascertained the percentage of dry finishing, the qualitative analysis must be made. This consists of two operations. Boil the sample for several hours in water to remove the starch, starch preparations, gum, soluble metal chlorides and sulphates, as well as the mineral constituents. After filtering, a portion of the clear fluid must be evaporated; then add tincture of iodine, which betrays the presence of starch. If this reaction does not occur, continue the evaporation and add three times the quantity of alcohol, by which dextrine and gum are separated from the solution.

GLUE AND GELATINE

may be determined with a tannin solution. To distinguish the gum from the dextrine, the polarizing instruments are used, when dextrine rotates to the right and gum to the left. If both are present, they may be separated with basic acetate of lead, by which gum is separated in cold from the solution. If no precipitate is thus obtained, but a black coal results, by heating the evaporated fluid upon the sheet of platinum, it is owing to a percentage of mucilage of Iceland moss, contained in the finish.

Sugar is detected with Febling's fluid. To test the filtered fluid for soluble mineral salts, the ordinary process of the qualitative analysis is employed, and that which remains upon the filter is generally china clay, or sometimes gypsum or lime.

Colophony (bright resin) is recognized by boiling a sample with soda, when a soluble resin is formed, which, when mixed with an acid, gives a precipitate of syloinic acid, while the soap formed from the fat separates the fatty acid as a layer of oil floating on the fluid. In order

TO ASCERTAIN WHAT FAT

it is, treat a cutting of the sample with ether, which takes up all the fat, and by dissipating the ether, the whole percentage of fat in the finishing is obtained.

Further than this the practical manager cannot go, he must be satisfied with the boiling in water. It is unnecessary when determining a finish to know the quantity of the ingredients. To ascertain what they are, is enough to know to compose a similar finish.

The Usual Area of Cotton to be Planted.

The cotton report as issued by the statistician of the department of agriculture for the month of May relates to the progress of cotton planting and comtemplated acreage. The proportion of the proposed breadth already planted on May 1st. was 81.6 per cent. against 85.3 last year, which is a little over four points lower than the amount usually planted at that date.

There will be a slight decrease in the acreage; almost every cotton growing state going behind this year, anywhere from two to eleven per cent., the only state in which there is an increase being Texas with four per cent.

The foreign trade has kept up well, in spite of the previous large increase in exports. In eight months ended April 30, 1894, the United States reported 4,783,-762 bales of cotton, 978,238 bales more than in the same period of '93, a gain of about 25 per cent. The value of these exports was $188,000,000, an increase of $24.000,000.

The average export value per pound was 7 9 c. against 8 6 last year. Although the United States has so enormously increased her cotton exports, the world's visible supply, May 12, was no larger than a year ago, and nearly a half a million bales less then two years ago, while New York prices were half a cent less than two years ago, and about the same as in 1893. European and English consumption shows a heavy gain with no great increase in stock on hand May 1st, while United States consumption is only 225,-000 bales less than a year ago.

A New Method to Secure Uniform Moisture in the Mill.

A method which is used in some large English mills, consists of a number of water vessels fed by pipes from cisterns or other sources, and furnished with perforated saucer-shaped covers, rims or flanges. Air pipes supplied with air under pressure, and terminating in nozzles of contracted orifices, are fitted above these vessels, and one or more spray or water pipes, having similar nozzles to the air pipes, meeting them at the angle required for spray producing; between the spray pipes and vessels are pulverizing disks adjustable to the former.

The air fresh or heated,—or cooled to the desired temperature—rushes from the air pipes, draws the water from the cistern through the spray pipes, and disperses it in the form of spray, which striking against the pulverizing disk, is thrown off in a finely divided state, and carried away by the air without condensing.

The principle and consequent working of this arrangement are therefore obvious, namely, that by inclosing the spray-pulverizing apparatus, carrying forward a larger and more widely distributed amount of water, and, by reducing the size of the pulverizing disks, the volume of humidified air is greatly increased. The introduction of this plan has been attended with very satisfactory results, it appears in some of the largest mills, and its superior adaptability to the purpose seems unquestionable.

Ornamenting of Waterproof Fabrics.

Any suitable woven fabric is coated with India rubber proofing, and is then covered or partially covered, according to the design and effect it is intended to obtain or produce, with spun or twisted threads formed of any desired fibre, as silk, cotton, etc. These threads must be laid more or less closely to and parallel with one another in straight lines lengthwise of the fabric, or they may be arranged so as to form stripes, or zigzag lines, or in any other manner to produce the desired design. The threads are made to firmly adhere to the proofed face of the fabric by pressure, by first passing such threads through an India rubber solvent, and then pressing the threads on to the proofed face of the fabric by passing the latter between calendering rolls, after which the fabric is rolled up tightly and left in this condition until the solvent has softened the proofing, when the fabric is again passed between pressure or calendering rolls to cause the threads to firmly adhere to and become partly embedded in the proofing.

The threads, when no solvent is applied, may be fed to the fabric by any desired mechanical devices. They may, for instance, be drawn from bobbins or warp beams and guided by a weaver's reed to the fabric in the spreading machine at a point where the proofing has sufficiently dried, but has not become too dry, to prevent adhesion of the threads, which are pressed on to it, and the proofed fabric with the thread adhering may then be passed between the calendering rolls to consolidate the threads with the proofing.

In some cases the threads before being applied to the proofed face of the fabric may be coated with what is commonly termed a

RUBBER SOLUTION,

that is to say, a rubber solvent in which pure rubber has by preference been dissolved, or the proofed and thread-ornamented fabric may be coated with one or more thin coats of the proofing, spread in the usual manner; but in this case, or when the threads are first coated with a rubber solution, the lustre of such threads as silk is more or less destroyed or spoiled, and these latter processes are only advisable for inferior goods where the best ornamental effects are not required.

When the design is formed by wavy or sigzag lines, the thread guide or reed, has the required motion imparted to it by any means.

The thread-ornamented water proofed fabrics are finished by having farina or similar material applied and are then vulcanized. If vulcanized by the ordinary cold process, by means of bisulphide of carbon and chloride of sulphur, the farina is or may be applied immediately after the vulcanising liquid has been applied to the proofed face of the fabric.

By these processes, beautiful designs in imitation of woven goods and brilliant effects can be obtained without materially increasing the weight of the fabric.

The Cotton Industry.

The chief interest attaching to the cotton industry of the Southern States begins in the autumn. The "boll' which bears the cotton, appears after the fall of the blossom, and is a kind of capsule, which opens when ripe, and shows from four to six locks of cotton, each lock containing three to six seeds, to which the cotton strongly adheres. As the bolls open the fields become white, and the country appears as though it was covered with snow among the green leaves. The average date of the opening of the bolls occurs about September 1, though earlier in the more southern latitudes. Then the hands are mustered for picking, and men, women and children with baskets and bags troop to the fields day after day. As they are paid by the weight they pick, their industry is unceasing. At the end of each day's labor the gatherers, who, for an adult hand, pick about 200 pounds of seed cotton, take their baskets and bundles to the weigher who, after weighing, issues to each a ticket certifying the amount earned, which is usually 40 to 50 cents per 100 pounds. All this cotton is attached to the seed, which has to be separated; and it is, therefore, taken to the gin house, which is always convenient to the field. The cotton gin is a contrivance to divest the seed of its fibre —and when this is done, the lint cotton is ready for "baling," and the seed is collected to be sold, and is a valuable article of commerce, both for its fine oil and cake, and for cattle feeding purposes. This is a very large trade in itself.

When the cotton is ginned and baled it is pressed for carriage to market—generally by hydraulic power—though for shipment it is again pressed by very powerful steam presses established at the ports. And then commences the great movement to market and port. Every road has its wagons with a few bales, every creek and river is alive with barges, steamboats, and all kinds of craft. Every railway is taxed to its utmost in the transit of cotton. Down the great rivers enormous steamboats come day after day, touching at landings, where their cargoes of bales await them in thousands. In lakes and inlets of the sea the great march of the staple goes on by oddly-contrived steamships, schooners and sloops and tugs towing barges—all with the same load. Inland towns receive their bales from the plantations, and there the country buyer waits and inspects what the farmers bring by a few bales at a time on wagons. A piece is drawn as a sample, there and then the bargain concluded, cash paid over, and the purchases of the day collected in the buyers' store.—[London Graphic.

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Jas. Hill Mfg. Co., Providence, Rhode Island.

—The Metallic Drawing Roll Co., Indian Orchard, Mass., are sending out a pamphlet which well describes the wonderful progress of the metallic drawing rolls up to date. Seldom has an invention in the textile line made such rapid strides. Thousands of old machines have been equipped with the patent metallic rolls, while in much of the new machinery now being ordered their merit is so well recognized that the patent metallic roll is specified. All the progressive builders of mill machinery, as well as many of the importers, apply the patent metallic drawing rolls to new machines. The long list of mills who are running these rolls in the United States, as well as their very extensive use in the leading cotton mills in other parts of the world, is the best evidence that their claims to advantage, which have been previously described in these columns, are well founded. Full information concerning price and method of application obtained in this new pamphlet for the season of 1894.

—Among the recent shipments made by the Metallic Drawing Roll Co., Indian Orchard, Mass., are 88 deliveries of Metallic Rolls for the Weetamoe Mills, Fall River, 12 railway heads to John P. King Mfg. Co., Augusta, Ga., 10 railway heads to the Graniteville Mfg. Co., Graniteville, S. C., 48 deliveries of drawing for the Exeter Mfg. Co., Exeter, N. H., for Atherton frames, 15 deliveries drawing for the Pacolet Mfg. Co., Pacolet, S. C., 25 deliveries drawing for the Derby Cotton Mills, Shelton, Conn., 60 deliveries to the Erwin Cotton Mills, Durham, N. C., for Whitin frames. Also a large number of rolls for other mills, including the Ada Cotton Mills, Charlotte, N. C., Overland Cotton Mills, Overland, Col., Wm. E. Hooper & Sons, Baltimore, Md., Mt. Vernon Co., Baltimore, Md., Victoria Mills, Newburyport, Mass., Swift Mfg. Co., Columbus, Ga., Berkeley Mills, Berkeley, R. I. Included in these shipments are numerous repeat orders from mills that have had the patent metallic roll running on a large scale, and also orders from several mills that had never before tried it.

—G. W. Card, formerly of the Peabody Mill, Newburyport, Mass., succeeded J. H. Hines, resigned, as superintendent of the Howland Mill, New Bedford, Mass.

—J. H. Hines resigned the superintendency of the Howland Mill, New Bedford, Mass., and accepted the management of the new print cloth mill, which is to be built at Burlington, Vt.

The Esty Automatic Sprinkler.

We illustrate the Esty sprinkler head in the accompanying cut. The value of automatic sprinklers for fire protection has been amply demonstrated beyond argument, and the Mutual Factory Insurance Companies insist upon their proper installation, while the regular stock companies make such liberal reductions on account of automatic sprinkler protection that no large factory can afford to be without them.

For many years the control of this system was virtually in the hands of one or two large companies, who had a practical monopoly of the business, but recently there have come into the field several new sprinkler heads, and the one which we illustrate has decided features of merit to recommend it. It fully complies with the requirements of the latest standard of the New England Factory Mutuals, the New England Insurance Exchange, and all other boards of fire underwriters throughout the United States.

A glance at the illustration shows that it is simplicity itself, and is claimed to be composed of less parts than any other, and special stress is laid upon the mica seated valve, which is non-corrosive, non-adhesive, impenetrable and imperishable. It is held in place by a single fusible soldered joint of but three parts. It will be seen that the fusible joint projects from the centre, therefore is more accessible to the heat from a sudden fire, not being shielded by other parts; the mica seat being held in place by a centre pivot, it is claimed will stand more abuse from accidental hitting than other forms. If the heads are melted out by fire, they can be re-seated without being removed, and at very trifling cost. They may be used pendant, as shown in the cut, or upright, and when used pendant in a cold place, the mica seat can be removed and the pipe allowed to drain, to be again replaced in warm weather with very little trouble.

The Esty Sprinkler Co. of Laconia, N. H., manufacture these sprinkler heads and control the patents, and to protect their sprinkler, as well as the insured, whenever a sprinkler system is installed by others than their regular authorized agents, they send a competent man to put in the sprinklers, after the piping has been approved by the insurance inspectors.

The price of this head is very reasonable, and the satisfactory endorsements it has received give good evidence of the efficiency of its work.

The Cotton Spinning Industry in Japan.

From the year 1857 or 1858, that is to say a little before the opening of Japan to foreign trade, the natives knew that an ingenious system of cotton-spinning was in existence in Europe and they were anxious to see it introduced into their own country. In 1875, after the return from a visit which Count Matsoukata, Minister of Finance, had paid to Europe, the Japanese Government purchased through him several small mopel machines for spinning cotton, and caused them to be distributed in those departments in which cotton is cultivated, in order that the inhabitants might become acquainted, not only with the machine itself, but with its uses. This was the commencement of the Japanese spinning industry, an industry which has since then experienced considerable development.

At the commencement of the industry the Japanese were only able to produce coarse yarns, those of No. 16, which were only suitable for replacing the ones hitherto produced in the primitive manner of the country, that is to say, by the distaff. From 1880 to 1884 cotton spinning became quite an important and flourishing industry in Japan. At the latter date there were 27 spinning companies throughout the country, producing about 617,000 Japanese pounds of yarn. The progress made was even more rapid during the period comprised between the years 1885 and 1889, as from the official statistics issued by the Japanese Government it appears that while in 1886 the amount of yarn produced amounted to 778,483 Japanese pounds, this quantity had increased in 1888 to 1,593,103 lbs., and in 1890 to 5,132,588 lbs. The number of spindles were respectively 65,420, 113,456, and 277,895. In 1890 there were 30 spinneries established in the country. The great development which had been effected in this industry in the years quoted above may be attributed entirely to the following causes: At this period the demand for money was not so great, and capitalists experienced some difficulty in finding good investments. They looked favorably upon industrial enterprises, particularly upon the cotton spinning industry, which realized profits varying between 20 and 30 per cent. annually. Soon cotton spinneries sprung up one after the other to such an extent that the production of yarn in 1890, as compared with 1886, was quadrupled. The carding companies then passed through an acute crisis, for the production of yarns of the higher numbers having so greatly increased it was difficult to find an outlet for the goods, and the surplus stock occasioned considerable embarrassment to the manufacturers. Among the manufacturers there were very few turning out fine yarns, those, for example, above No. 20, and the import of foreign yarns of this description continually increased. For example, the value of such imports in 1877 amounted to 4,000,000 yen, while in 1888 they exceeded 13,000,000 (the par value of the yen is 4s 2d.).

It will thus be understood that the progressive increase in the imports of foreign yarns on the one hand, and the check experienced in the production of Japanese yarns on the other, were due principally to an imperfect knowledge of this industrial art on the part of the Japanese. The manufacturers being desirous of acquainting themselves with the situation of the cotton industry abroad, sent out to Bombay two agents, who were commissioned to study the condition of the carding industry of India, and to bring back detailed information upon this subject. Soon afterwards a report was received from these agents to the effect that, judging from the condition of Indian markets, it might be safely predicted that the cotton spinning industry of Japan had a brilliant future before it. In course of time it would, in their opinion, certainly have the monopoly of the Japanese markets, as it will soon be impossible for Bombay yarns to compete with the Japanese.

The manufacturers being thus encouraged, commenced to study methods of turning out yarns of the finer descriptions, which are largely consumed in the country, and more perfected machinery was employed in order that a keen competition might be carried on with the foreign yarns. The result was very soon seen in an increased national production and a decreased importation. For example, in 1888 the quantity produced, in Japanese pounds, amounted to 957,000, and the imports in English pounds to 47,000,000. In 1890 the quantity produced amounted to 32,000,000 pounds, and the imports to 31,000,000. In 1892 the figures were respectively 64,000,000 and 24,000,000.

Thus, as will be seen by the above, the imports of foreign yarns have fallen off year by year, and they decreased in value from 13,000,000 of yen in 1887 to 7,000,000 in 1892. This is a result of the progress that has been effected in the national industry, and the great part of this success comes naturally from the skill of the workmen, who have learned much from their foreign competitors. As a matter of fact cotton yarn is said to be produced at a cheaper rate in Japan than in India.—[Indian Textile Journal.

A New Method of Dealing with the Smoke Nuisance.

Washing air of its impurities by passing it through water screens or through chambers into which water is profusely sprayed is a well-known and much-used process in heating and ventilating practice. Its merits were conclusively demonstrated years ago, and ever since advantage has been taken of them in large ventilating installations in which their expense was warranted, and where a smoky and an unclean outside atmosphere suggested the desirability of submitting the air to some cleansing process before allowing it to pass into buildings. It is not surprising, therefore, that a somewhat analagous method should have suggested itself as of likely service in dealing with the now so much discussed smoke problem, and that it should have been tried with encouraging results. At any rate, a newspaper paragraph, now going the rounds, tells of its application by an English factory owner, whose repeated conflicts with the local smoke ordinance prompted experiments in this direction, and apparently with perfect satisfaction. According to the published description, somewhat indefinite, perhaps, in a few respects, the apparatus used by him consists of a large cast-iron tank, in which is a slotted barrel, which is fitted with perforated beaters, and the tank is partly filled with water. The smoke is drawn into the barrel from the machinery by a powerful fan, and undergoes a scrubbing process. The barrel rotates very rapidly, churning up the smoke with the water. On the top of the barrel are several semi-circular trays or sieves, which are perforated, and effect the purpose of further washing the smoke. The smoke, which escapes from the beaters, is caught again by these sieves, and dashed down again by a very fine spray of water from the beaters. The black sludge of solid matter is forced to the top of the chamber, and thrown over into a chute, which conveys it to a wooden tank. The smoke which finally escapes from the machine is said to be comparatively inoffensive, and there is certainly good reason to believe that this should be so.

It is interesting to note, moreover, that the use of the apparatus does not end with the cleansing of the smoke. The black deposit gathered by it is taken off in barrels to be used in the making of paint and printing ink, yielding an acceptable revenue instead of polluting the atmosphere, and the remaining liquid is said to have proved itself a most valuable disinfectant. Thus a two-fold purpose is accomplished, either one of which would seem to be quite sufficient to commend the process to manufacturing communities in which smoke suppression is a live topic.—[From Cassier's Magazine for May.

Skylights and Ventilators..

The engraving illustrates a hip Monitor skylight with glazed opening sash for ventilation. These sashes can be opened simultaneously by means of a self-locking apparatus, and where ventilation is desired by this means without obstruction to the light, such as in large buildings, storehouses, stores, etc., it is a very acceptable and practical form.

HIP MONITOR SKYLIGHT WITH GLAZED OPENING SASH FOR VENTILATION.

The builders of these skylights, Messrs. E. Van Noorden & Co., 383 Harrison Ave., Boston, manufacture an immense variety of skylights without ventilators, skylights and ventilators combined, Clover Leaf ventilators, Van Noorden ventilators, and architectural sheet metal work of all kinds.

The Specific Weight of Textile Fibres.

Translated from the German for the Textile Mfg. World.

In the hand books pertaining to the textile industry, we find that the figures for the specific weight of the textile fibres are given only in the way of estimates. The reason is in the fact that the fibres after having been submerged in water, contain air bubbles, which are only removed with more or less difficulty, It is also known that the fibres swell in water or watery salt solutions. These difficulties have been removed by using benzine in the place of water or salt-solutions while engaged in the process of obtaining the specific gravity of the fibres.

The material which is to be tested and which contains a normal degree of moisture is first weighed in the air and is then submerged in benzine; at the same time a vacuum instrument is employed for about 5 to 10 minutes for the purpose of removing the air. After this the material is weighed in the benzine and the weight noted down. The vaccuum is then again employed for unequal length of time and if the weight should decrease the process is repeated until the former becomes constant.

The following results were obtained according to this method. All

THE TESTED MATERIALS

possessed the normal degree of moisture, while the temperature under which the tests were made stood at 18° C.

Nature of the fibres.	Specific weight.
Raw cotton	1.50
Cotton yarns	1.51
Combed wool	1.30
Woolen yarn	1.30
Combed hemp	1.48
Linen yarn	1.50
Jute yarn	1.48
Combed mohair	1.30
Raw silk (French)	1.33
Peeled silk "	1.30

From the above it is seen that the specific weight of the vegetable fibres varies from 1.48 to 1.52 while the weight of the animal fibres is considerable less in the average and amounts to 1.30-1 34.

Further experiments were made with raw-silk and mechanically treated silk (which had lost about 4 to 5 per cent. of its gum), with boiled silk, and with silk which had been weighed down with other matter, like tannin, tin etc. for the purpose of discovering the influence of this loading process and of the coloring matters on the specific weight of the fibres. In the first of the series given below, the fibres had been colored with different dye-stuffs; in the second series they had been dyed black. The following gives the result of the experiments, which have been made:

FIRST SERIES.

MECHANICALLY TREATED SILK.

	Specific weight
Original loss 4.33%	1.33
Made heavy with tannin, increase 47.28%	1.37
Made heavy with tin, increase 71.70%	1.94
Made heavy with tin and tannin Increase 70.36%	1.66

SCOURED SILK.

Original loss 25.70%	1.34
Made heavy with tannin, decrease 7.04%	1.37
Made heavy with tin, increase 58.64%	2.01
Made heavy with tin and tannin, increase 32.82%	1.60

SECOND SERIES.

MECHANICALLY TREATED.

Original increase, 00%	1.34
Made heavy with tannin, increase 31.60%	1.39
Made heavy with tin, increase 52.30%	2.40
Made heavy with tin and tannin increase 63.70%	1.43
Original loss 24.10%	1.34
Made heavy with tannin, increase, 79 90%	1.34
Made heavy with tin, increase 44.50%	2.60
Made heavy with tin and tannin increase 64.10%	1.52

From the above can be seen that the tannin-acid increases the specific weight of the silk only little, while the metal-salts exercise considerable influence in this regard.

Silk Seal.

This entirely new fabric is notable for its richness, and also for another most desirable quality—that of not being affected by the weather, however inclement it may be. Neither rain nor snow has the slightest effect upon its lustrous beauty. Hitherto the surface of all the different varieties of plush and manufactured seal has been liable to get spotted by rain. In this new silk seal this objection is quite removed, it having been subjected to a thorough waterproofing process, which will, no doubt, make it a favorable material for cloaks to wear in rainy weather. It has none of the disadvantages of a mackintosh, as it is to a certain extent porous.

Jute Bagging Must be Used on Cotton.

The managers of the N. Y. Cotton Exchange have adopted a rule that on and after Sept. 1, the beginning of the crop year, no cotton covered with Pine straw bagging shall constitute a good delivery. Southern exchanges have been notified of this action. Recent tests have shown that straw bagging stains the cotton and any cotton coming north after this will have to be recovered with jute.

Personals.

—William H. Norris, formerly superintendent of the Stanley Creek Cotton Mill, Stanley Creek, N. C., and lately with the Olive Oil & Grease Co., has accepted the superintendency of the Glencoe Mills, Burlington, N. C.

—Andrew Cobb, second hand, has been promoted to overseer of ring spinning with the Clifton Mfg. Co., Clifton, S. C., and will be succeeded by James McVey, of Pelzer, S. C.

—Geo. T. Lynch, master mechanic at the Enterprise Mill, Augusta, Ga., has been placed in the position of overseer of carding. Mr. John Thomas, second hand of machine room, will succeed to the position of master mechanic.

—J. T. Downum, superintendent of the Florence Millls, Forest City, N. C., has resigned and accepted a similar position with the Belmont Cotton Mills, Shelby, N. C.

—T. A. Davis, the well-known superintendent of the Union Cotton Mills, Maiden, N. C., has resigned his position and retired from mill life to engage in the grocery business in Mt. Holly, N. C.

—Mr. Richardson succeeded to the position of superintendent of the King's Mountain Cotton Mill, King's Mountain, N. C., made vacant by the resignation of R. M. Thacker.

—E. B. Brown, lately of Newton, N. C., has taken a position in the Laboratory Cotton Mill, Lincolnton, N. C., as overseer of carding.

—William I. Walker, formerly second hand of spinning in the Pelzer (S. C.) Mills, has accepted a position as overseer of spinning in the Lanett Mills, West Point, Ga.

—T. L. Bowers, of Pelzer, S. C., has been engaged to take charge of the weave room in the Lanett Cotton Mills, West Point, Ga.

—W. P. Moneyhan, formerly of Fort Mill, S. C., is now overseer of carding in the Rock Hill Cotton Mill, Rock Hill, S. C.

—E. W. Worth, formerly superintendent at Ashville, N. C., is now overseer of carding and spinning in the Caraleigh Mills, Raleigh, N. C.

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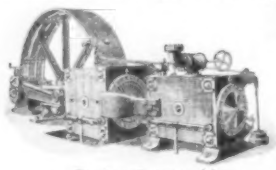

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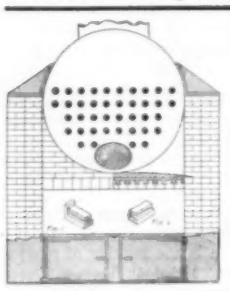

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O. B. YOUNG, M. E., Editor.

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Bringing Up a Steam Plant.

BY REX.

NO. XIX.

COAL COMBUSTION.

Many a manufacturer has stood calmly by and watched his money coming out of the chimney of his factories in smoke.

One reason for this is that for many years the thought that smoke was money wasted never entered his head.

He had scrimped and saved in every known way to make the dollars that were being thrown away, and when his neighbors complained because the smoke drifted down into their door yards and made living a burden he would simply rub his hands and say, "I'm very sorry but you know the factory must run, and if it runs it will smoke."

But now a change has come over him, at least it has if he is a progressive man and he realizes that smoke in the neighborhood not only means discomfort to others, but also loss of cash for him.

I say "if he is progressive" for many a man who is burning his money is not aware even in these enlightened days that that which comes out of the chimney dark enough to be noticeable is certainly money wasted.

Just as soon as the progressive steam user had it demonstrated to his satisfaction that smoke meant waste he at once set about trying to find some way to prevent it.

Year after year new schemes have been placed upon the market, most of which have been proven worthless unless it be to call the attention of cities and towns to the fact that the smoke nuisance should be abated, even leading to laws being passed in some localities prohibiting the use of coal which would cause smoke.

Plan after plan

WISE AND OTHERWISE,

generally the latter, have been tried but as yet nothing has been brought forth, which can be considered as coming anywhere near general adoption.

The first visionary schemes, which were tried and discarded after a large expenditure of money, have led people to look with disfavor upon any device labelled "smoke consuming," and yet many are excellent in their way.

One company manufacturing a smoke consumer said to me recently, we would have given $50,000 to have had our furnace the first smoke consumer heard of, for while we stand ready to back our claims to almost any amount, the general public will persist in classing it with some old device which they have tried and found a failure.

In order that one may have a clear idea of just to what extent unconsumed fuel or smoke means loss it will be necessary to have some way of measuring the value of coal as a medium of heat.

As far back as 1798 several exhaustive experiments made by Count Rumford, then in the services of the Bavarian Government, led to the discovery that heat is the motion of the molecules composing a body and as a form of energy is subject to general laws which govern every form of energy and control all matter in motion, whether that matter be molecular or the movement of masses.

A paper upon this subject was presented in the above year to the Royal Society of Great Britain describing the work, giving the results, also Count Rumford's conclusion that heat is not a substance but a form of energy.

Scientists next set to work to find some

MECHANICAL EQUIVALENT OF HEAT,

and the results of experiments conducted by Dr. Joule, from 1843 to 1849, have been generally accepted as satisfactory. These give as a basis for calculation a heat unit known in technical terms as a British thermal unit, which is the quantity of heat required to raise one pound of pure water from a temperature of 62° Fahr. to 63° Fahr.

The mechanical unit of *power* is the foot-pound, or the power required to raise one pound one foot high. The experiments of Joule and others show 722 foot pounds to be equivalent to one British heat unit. The unit of *electrical power* is the *watt*, which is obtained by multiplying one amphere by one volt. 746 watts equal 1 h.p. or 33,000 foot pounds per minute, therefore a watt has an equivalent in heat units, and an easy way to memorize the different equivalents is as follows:

1 heat unit,=722 ft. pounds,=17.45 watts.

42.75 heat units,=33,000 ft. pounds,=760 watts,=1 h.p.

The French have a system based as all their calculations are, upon the metric system.

We have by this means a basis upon which we can compute just how much of the coal thrown into the furnace is utilized and how much is wasted.

In order to generate steam, only two steps are required; first, produce the heat, and second, transfer it to the water.

A pound of coal or any other fuel has a definite heat-producing capacity, and is capable of evaporating a definite quantity of water under given conditions.

The first step in making steam is in burning fuel to the best advantage. A pound of carbon will generate 14,500 heat units during combustion, and this will be the same whatever the temperature or rapidity at which the combustion may take place.

There are only three ways in which the heat, developed by the combustion of coal in a steam boiler furnace, may be expended.

First, that conveyed to the water in the boiler for the production of steam.

Second, that which passes up the chimney in unconsumed gases. This is in proportion to the weight of the gases and the difference between their temperature and that of the air and coal before they entered the fire.

Third, that portion thrown off by radiation from the sides of the furnaces like, for instance, the stove warms a room. As the last two forms are a clear waste of energy, it is one of the great problems of steam engineering to reduce the amount thus lost to a minimum.

About all precaution which can be taken to reduce the loss by radiation is to have thick tight walls and to-day this has been so well cared for that the loss is too small to be computed. But in the case of waste gases passing up and out of the chimney it is just the reverse, for in many poorly constructed and badly arranged boiler plants this loss is so great that it would

APPALL THE INDIVIDUAL

who has the coal bills to pay if he for a moment had any idea of the amount being thrown away. It must be conceded, however, that in many cases this individual keeps himself in a state of blissful ignorance, seemingly from choice.

Any one can see that the temperature of the escaping gases cannot be brought below that of the absorbing surfaces, always supposing all of the escaping gases have passed through the fire.

Assuming that there is no air passing up the chimney other than that which has passed through the fire, the higher the temperature of the fire and the lower that of the escaping gases the better the economy, for the losses by chimney gases will bear the same proportion to the heat generated by the combustion as the temperature of those gases bears to the temperature of the fire.

For example, if the temperature of the fire is 2500° and that of the chimney gases 500° above the atmosphere, the loss by the chimney will be $\frac{500}{2500}$=about 20 per cent. Therefore if the escaping gases cannot be brought below that of the absorbing surface, which is practically a fixed quantity, the temperature of the fire must be high, in order to secure good economy.

It will be noted that we say "Supposing all the escaping gases have passed through the fire." The reason for this is that since the subject of waste through gases passing unconsumed up the chimney has been so strongly agitated, many boiler makers or persons having patent furnaces have resorted to all sorts of means to prove to steam users that their specialties will consume the gases, and attempt to prove it by showing the exceedingly low temperature of the chimney gases, even sometimes carrying it so far that they actually claim to bring it below that of the absorbing surfaces, thus accomplishing practical impossibilities.

But how do they obtain anywhere near these results? By simply allowing cold air to leak into the flues. Any one can see that this not only does not decrease the loss, but greatly increases it, as every particle of cold air admitted to the flues more than is necessary to secure the nearest to perfect combustion of the coal, merely has the effect to cool down the parts so that they must be reheated. Here comes the question of how much cold air should be admitted to secure the best results in coal combustion, and this will be made the subject of our next article.

(To be continued.)

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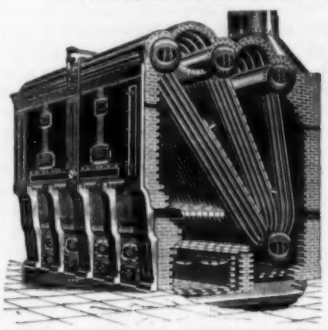

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Rope Transmission.

Editor Textile Mfg. World:

In your issues for March and April, and parts of a series of articles by "Rex," appears some account of his experience with rope transmission at a certain shop. The tenor of this description however truthful in detail, is nevertheless calculated to prejudice the reader against the use of ropes for transmission of power, at least by the endless rope system peculiar to the United States. If Rex is unacquainted with what ropes are doing outside the establishment he refers to, he is at least not unacquainted with the fact that they are used in many other places, and it would have been better if he had informed himself as to the performance elsewhere, before condemning the whole business.

The writer has had considerable experience with the rope transmissions on the American System, and I know that the impression conveyed by Rex's article is altogether erroneous.

I am acquainted with the circumstances of the cause which he described, and

while I do not question anything he says as to facts, I disagree entirely with his conclusions. The facts are, the installation which he describes was designed by a person who did not have the requisite experience, and it had several defects, which were fatal from the start. The whole thing was too much crowded together, and the shafts were hung so high that the ropes had to pass through holes in a string of beams two thirds the length of the factory. This required so much weight on the tension that the ropes were already overloaded, and it was no cause for wonder if they were rapidly worn out against the beams or broken with overload of tension weight. It was a case of bad engineering for which the rope was not in any way accountable.

I can heartily commend the closing sentences of Rex's paper and agree with him that a rope can not be expected to do wonders, more than people, and that any one who wishes to use a rope drive should be sure it is designed by somebody with experience in planning such things. When that is done, he will not find several drives taken off one wheel without any better expedient than cutting the rope in case of accident. He will not find the ropes stretched beyond the factor of safety to keep them from flapping against a beam. A rope drive must be treated properly in order to get a friendly return. It is an excellent friend but a troublesome enemy and is worthy the careful attention of Rex or any other man. FIRMUS.

Direct Connected Engine and Dynamo.

Almost every one directly or indirectly interested in steam-electric engineering in these latter days, is anxious to see the best combined arrangement of engine and dynamo showing most modern characteristics. We are pleased to be able to illustrate in our columns a direct connected steam-electric combination, which we feel sure will attract attention.

The engine is the "Harrisburg Ideal" self-oiling pattern, cylinder 12 inch diameter by 12 inch stroke, manufactured by the Harrisburg Foundry & Machine Works, Harrisburg, Penn. The dynamo is the product of the General Electric Co., 50, K. W., capacity speed 275 r. p. m., 420 amperes, 110 volts and obviously of the multipolar type. There is an immediate impression of strength and solidity about this combination which at once strikes the eye and simultaneously an appearance which a closer examination fully justifies, of compactness and simplicity.

The self-oiling out-board bearing standard Edison bipolar dynamo bearings, which have, by years of universally good service, proved the merit in them.

A test of the Ideal General Electric combination made recently in New York City, in the presence of several gentlemen unusually well informed on steam and electrical matters, will be of interest to our readers: The engine, and of course the dynamo, was started in the usual manner under steam, and when running at the desired speed of 275 r. p. m., the brushes were adjusted and engine and dynamo prepared for undertaking the load. The switch board was also arranged so that the entire current of power generated, would pass through two switches side by side. A five-cent nickel was balanced on edge on the outer end of the cylinder head, the engine running at "friction load." The two switches were then taken in hand and thrown in instantly, the metre showing 340 amperes. The switches were thrown out in seven seconds, then in and out again, thus throwing upon the engine practically the full load in fourteen seconds two times, during which the five-cent piece remained balanced on the cylinder head, showing the combination to be operating absolutely without any vibrations whatever.

There are now between 30 and 40 Harrisburg Ideal electric direct connected combinations in successful operation, nearly every one of which was installed by the New York and New England representatives of the Harrisburg Foundry & Machine Works, W. R. Fleming & Co., 203 Broadway, N. Y., and 620 Atlantic Ave., Boston.

Useful Rules for Engineers.

To find the Circumference of a Circle, or of a Pulley:

Multiply the diameter by 3.1416; or as 7 is to 22 so is the diameter to the circumference.

***

To Compute the Diameter of a Circle, or of a Pulley:

Divide the circumference by 3.1416; or multiply the circumference by .3183; or as 22 is to 7 so is the circumference to the diameter.

***

To compute the Area of a Circle:

Multiply the circumference by one quarter of the diameter; or multiply the square of the diameter by .7854; or multiply the square of the circumference by .07958; or multiply half the circumference by half the diameter, or multiply the square of half the diameter by 3.1416.

To compute the Diameter of a Toothed Wheel:

Multiply the number of teeth by the number of *thirty-seconds* of an inch contained in the pitch, and the product will be the diameter in inches and hundredths of an inch; or multiply the number of teeth by the true pitch and the product by .3184. These results give only the diameter between the pitch line on one side and the same line on the other side, and not the entire diameter from *point* to *point* of teeth on opposite sides. These results are only approximate diameters, since the wheel often varies from the computed diameter in consequence of shrinkage and other causes.

***

To compute the Number of Teeth in Pinion to have any given Velocity:

Multiply the velocity or number of revolutions of the driver by its number of teeth, or its diameter, and divide the product by the desired number of revolutions of the pinion or driver.

***

To compute the Diameter of a Pinion, when the Diameter of the Driver, and the Number of Teeth in Driver and Pinion are given:

Multiply the diameter of driver by the number of teeth in the pinion, and divide the product by the number of teeth in the driver, and the quotient will be the diameter of the pinion.

***

To compute the Number of Revolutions of a Pinion or Driven, when the Number of Revolutions of Driver, and the Diameter or the Number of Teeth of Driver and Driven are given:

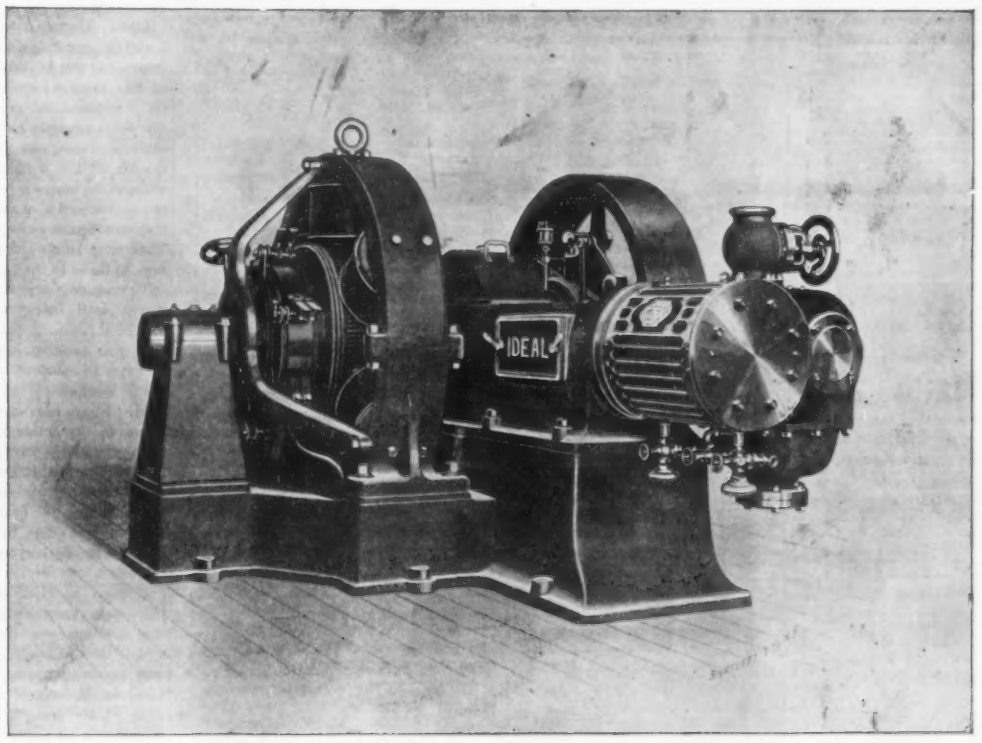
Multiply the number of revolutions of driver by its number of teeth or its diameter, and divide the product by the number of teeth or the diameter of the driven.

***

To ascertain the Number of Revolutions of a Driver, when the Revolutions of Driven and Teeth or Diameter of Driver and Driven are given:

Multiply the diameter of teeth or the diameter of driven by its revolutions, and divide the product by the number of teeth or the diameter of the driver.

—The Boston office of W. R. Fleming & Co., contracting engineers, and agents for the Ide and Ideal engines, has received a contract for the engines and general electric equipment of the Brockton City Hall. W. R. Fleming & Co. are getting a great deal of business in New England.



DIRECT CONNECTED ENGINE AND DYNAMO.

feature in the Harrisburg Ideal engine shown, is designed on a generous model and has the latest arrangement of movable sleeve with ring oilers, being, except for increased weight and size, almost the same construction as the

—The Locke Regulator Co., of Salem, Mass., have commenced a suit for damages against the Fifth Ave. R. E., of New York City, for infringing their rights in using Spencer damper regulators.

—The new Anglo-American machine company has finally acquired a site in North Attleboro, Mass., just over the line from Pawtucket, and we understand that building contracts will be let at once. Mr. J. C. Potter, formerly of the Potter & Atherton Machine Co., is the managing head of the enterprise.

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Mention this paper.

The American Engine.

This article presents to our readers a description of a high grade automatic engine built by the American Engine Co. 70 Raritan Ave., Bound Brook N. J., a company organized in 1893 with $200,000 capital. This company bought from the American High Speed Engine Co. their fine plant and adopted the above name.

The claim made for this new engine by its manufacturers is that it possesses the remarkable feature of retaining all the simplicity of a single valve engine while distributing the steam as in the Corliss and other complicated engines, which gives the highest attainable economy.

Simplicity is always desirable in machinery, but it is often sacrificed to secure better results in economy. Heretofore the consumer has had to choose between two evils, that of complication for good steam economy or of poor steam economy for simplicity. In this engine it is claimed that both evils have been removed and that simplicity with high steam economy have for the first time been united, thus removing the question as to which of the two evils is the least.

We leave our readers to judge of the merits of the above claim.

Referring to the illustrations, Fig. 1 is a view looking at the rear side of the engine showing a massive bed plate with square base to rest upon the foundation. The foundation is protected from oil and water by a bead which extends around the outer edge of the base which conducts the oil etc. to a pit under the crank disc, from which it is drawn out through a pipe and saved for filtering to be used again. The bed plate from cylinders to bearing extends above the centre line of strains, ensuring perfect rigidity and freedom from springing.

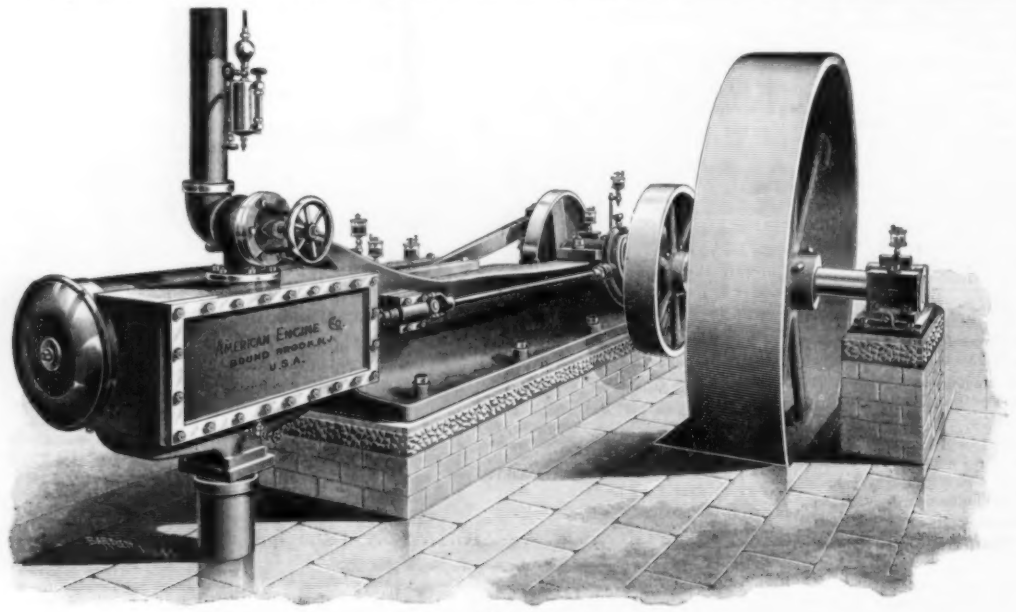


Fig. 1.

Fig. 2 is a view of the valve gear with a single piston valve having the usual annular parts, one at each end, which control the admission of steam to the cylinder—the release and compression being controlled by the ends of the valve, the movement of the valve to control these events being reciprocating and produced by the eccentric shown as it revolves around the shaft, the motion being transmitted to the valve by means of the eccentric rod and valve rod.

So far this description would apply to many of the numerous piston valves and operating mechanisms, but the peculiarities in this particular arrangement are; first, the eccentric is fixed on the shaft which makes the reciprocating invariable, thereby giving a constant admission, release and compression.

Second, the automatically variable cut off is produced as follows: In addition to the annular ports this valve is provided with longitudinal ports, which have others to correspond, cast in the stationary sleeve which is within the steam chest. As the inner ends of the valve are closed, steam in order to get into the cylinder must pass through these longitudinal ports and will do so when the valve ports coincide with those in the sleeve, and the flow of steam to the cylinder will be cut off when these ports do not coincide, therefore the admission to and its cut off from the cylinder depends respectively upon the longitudinal ports in the valve being brought into or thrown out of communication with those in the stationary sleeve.

The opening or closing of these longitudinal ports calls for a twisting motion to be imparted to the valve, which is accomplished by the eccentric sleeve, mounted upon the eccentric and having a diagonal V shaped groove (See Fig. 5) turned in its periphery, to which the eccentric strap is fitted. This strap is connected to the governor weights by links in the usual way of connecting eccentrics. As the sleeve revolves with the eccentric, being carried round by the governor weights, a twisted motion is imparted to the strap and through the eccentric rod and valve rod to the valve.

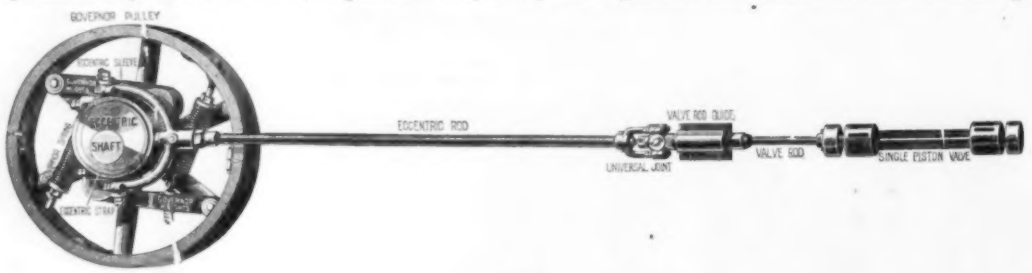


Fig. 2.

It will thus be seen that the valve has two motions, one an invariable reciprocating motion, the other a twisting motion, invariable in degree, but variable relatively to the reciprocating motion. This variation is accomplished by the rolling of the sleeve on the eccentric, whenever the governor weights change their positions as a result of a change in speed.

This company claims that their experience with a piston valve is such as to condemn its use in a horizontal position, for notwithstanding they are perfectly balanced against steam their weight produces friction which causes wear and soon results in leakage. They will use it however in their vertical compound and triple expansion engines in which its weight will be supported by the valve stem in a vertical position, doing away with friction and consequent wear.

Fig. 4 shows a horizontal section through the cylinders and illustrates the construction of the valve used in horizontal engines. It consists of flat faced slide valve, bearing upon a flat seat against which it is held by steam pressure. The valve travel is invariable, hence the wear upon its seat is unifom and the valve always remains tight. This valve controls the admissions, release and compression, maintaining them constant, while the cut off is controlled by a small cylinder valve within the slide valve. As shown, this valve is provided with longitudinal ports, corresponding ports being cast through the shell of the slide valve surrounding it, and the cutting off of the steam is accomplished by twisting or rotating the valve which opens or closes the longitudinal ports. No change whatever is required in the valve gear to actuate this valve.

The exhaust steam passes directly to the exhaust pipe cast on the under side of the steam chest, the ends only being joined to the steam chest so that the exhaust does not come in contact with any live steam surfaces except the ends of the main valve.

The live steam enters the steam chest through the top at the centre and is prevented from passing the ends of the valve to the exhaust by packing strips, one bearing against the steam chest cover and the other against its top, being kept in contact with these surfaces by the steam or small springs when the steam is shut off. A corner piece is so constructed as to effectually close the joint where the packing strips meet at the corner. These strips are made of the same material as the valve and are secured from moving away from the valve seat proper by a pin, but are free to move out of the groove in the valve as wear may occur in their wearing surfaces.

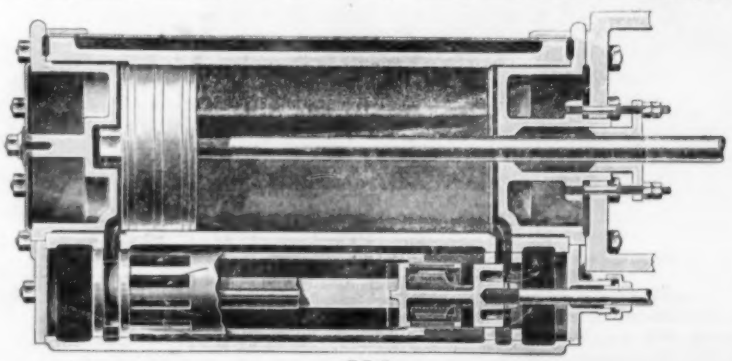


Fig. 3.

The economy of small clearance space is fully realized in this engine having but one short port at each end of the cylinder for the admission and eduction of steam.

In a later issue we will give sample of indicator cards showing the economy of these engines.

Kerosene in Boilers.

Editor of Power Dept. Textile World:

Dear Sir: Your letter together with copy of April number of your paper reached me too late to comply with Mr. Gardner's request for publication in May issue. In reply to Mr. Gardner I would say that I shall be only too pleased to give him and his brother engineers such information as I have been able to glean from different plants using kerosene oil, for the removal and prevention of scale formations in steam boilers.

I have visited three or four times the boilers I designated as salt bags in my former letter. Where they use salt water pumped direct from the ocean to supply the boilers, you will remember I told you that the salt hung in festoons from the seams and rivets. This was before the application of kerosene oil, since then the boilers present a marked difference, being free from all outward evidence of the use of salt water.

Upon interrogating the engineer I found the result inside was, that the oil caused the salt to precipitate in the form of fine meal which was nothing but dirty or discolored salt, that nothing in the form of scale even adhered to the shell or tubes, and that he considered the life of the boilers at least doubled without the annoying thought that formerly posessed him that sooner or later they would take a notion to soar heavenward or endways and furnish quick passage to those in the immediate vicinity.

The other plant where they used a driven well being very near, I also visited at the same time and found them simply in raptures over the result and its extreme cheapness as compared with costly compounds they had formerly used. I have also visited nearly all the states in the union since writing you, and have made many inquiries in regard to the use of kerosene, or as they call it South, "coal oil." In some instances they never heard of such a thing, but were anxious to try anything so cheap if the desired results could be obtained.

I found in Montana that the water there was very strongly alkaline and that nothing, even oil would "phase" it; again in California where the water was nearly the same, they banked on kerosene oil, some of the largest electric light plants being furnished with the same device as I saw East.

I asked quite a number of the more experienced engineers if they even tried the use of the oil in quantities pumped in through the pump or inspirator. A great many of them had done so previously, but all were of the opinion that only good results would come

from a continual feeding of the oil by the drop for every given quantity of water that entered the boiler. One old engineer in speaking of the machine said it was sure, and did its work without growling or watching, which was more than he could say of those usually entrusted with squirting it in through the pump at intervals.

I also found one large firm in Ohio who had given the matter considerable study, being at first very much against the introduction of any oil into their boilers but had changed their ideas when after using a machine feeding the oil by the drop some ninety days, they found a saving in their coal bill of over *three hundred dollars*. They had sent an order for a duplicate machine for another battery of boilers, and so I found it wherever I asked. Very seldom one decried the use of oil and when they did so it was because they did not believe in changing from some compound they were using.

As my business was not to sell oil, compounds, or machines, it was immaterial to me what they used, but I usually told them if they had the interest of their employers at heart they would be only too glad to avail themselves of anything so easily obtained. If I can be of further service to Mr. Gardner or any of our brother engineers, I shall be only too glad of the opportunity to do so. Thanking you, Mr. Editor, for the privilege of replying, I am very truly yours. FEN.

—Mr. C. J. H. Woodbury, who has so long been connected with the Boston Manufacturers' Mutual Insurance Co. as vice president, and who is acknowledged authority on mill construction, has resigned, to take effect September 1st, on which date he will enter service in the American Bell Telephone Co. in the engineering department.

—The great Corliss engine works, which have not been in active operation since the death of the famous inventor of the engine which bears his name, will soon start up under new management. A company has been formed in which a number of prominent textile machinery builders are interested, with $1,000,000 capital, and the management will be in the hands of Mr. D. M. Thompson, who has for a number of years past held the position of general manager of B. B. & R. Knight's mills. Mr. Thompson is widely known in the mill trade, and has a high reputation as a successful organizer and manager. The great reputation of the Corliss engine, combined with the enterprising management of the new company, will doubtless soon restore the great plant to a condition of active operation.

List of Textile Patents for April, 1894.

Specifications and drawings for fifteen cents. Address "Patents," P. O. Box 222, Brooklyn, N. Y.

Blue Alizarin Dye. 519,229. E. Bohn, Mamheim, Germany, assignor to Badische Anilin and Soda Fabrik Ludwigshafen-on-the-Rhine, Germany.
Blue Dye. 519,971 J. Schmid & J. Bachsiut, Basle, Switzerland.
Braiding Machine, Spool Holder. 520,564. W. D. Gridley, Brooklyn, N. Y.
Brown Petroleum Dye. 519,090. H. A. Frasch, Cleveland, Ohio.
Brown Petroleum Nitro Dye. 518,991. H. A. Frasch, Cleveland, Ohio.
Carding Engine. 519,640. J. C. Potter, Pawtucket, R. I.
Carding Engine. Apparatus for controlling the grinding flats of, 519,771. J. E. Prest, Whitinsville, Mass.
Carding Engine. Machine for applying card clothing to flats of, 520,188. R. W. Hunton, Newton, Mass., assignor to Pettee Machine Co., same place.
Chenille. 520,406. E. Cattlow, Phila., Pa.
Cloth Folding Machine. 519,073. W. A. Richardson, Worcester, Mass., assignor to Albert Curtis & E. T. Marble, same place.
Cloth Measuring Machine. 520,463. J. H. Vanderburgh, Orom, Canada.
Cloth Sizing and Drying Machine. 519,200. R. Partington, Patchogue, N. Y.
Cotton Web. Machine for Winding. 520,420. E. Goldman, Baltimore, Md.
Dyeing Machine. 519,323. G. H. Craven, Philadelphia, Pa., assignor to J. S. Craven, same place.
Edge Folder for Fabrics. 519,131. R. W. S. Mitchell & J. Murphy, Passaic N. J.
Elastic Fabric. 519,727. G. C. Moore, Easthampton, Mass., assignor of one-half to Jos. W. Green, Jr., same place.
Half Spools. Machine for dressing. 518,964. E. Hubbard, Chicago, Ill., assignor to Willimantic Linen Co., Hartford, Conn.
Knitting Machine. 520,452. G. E. Salisbury, Providence, R. I.
Knitting Machine. Stop off motion. 519,690. F. Chambers & T. Doud, Camden, N. J.
Knitting Machine. Warp frame attachment. 520,303. W. Cutts, Tabernacle, N. J.
Loom Jacquard Attachment. 519,374. S. Bently, Paterson, N. J., assignor one-third to Alfred Woodier, same place.
Loom for Weaving Bordered Fabrics. 520,421. S. Goss and Valley, Fall River, Mass.
Loom Lease Rods. 520,444. A. Minney, Millbury, Mass.
Loom Let-off Mechanism. 520,603. J. H. Mayer, Waterloo, Canada.
Loom Stop Motion. 520,277. B. S. Taylor and C. Heritage, Hampden, Mass.
Measuring Textile Fabrics. Apparatus for. 519,277. F. C. Stephen, Crimmitschau, Germany.
Petroleum Dye. 518,992. H. A. Frasch, Cleveland, Ohio.
Polyazo Dye. Yellow. 519,522.
Polyazo Dye. Yellowish. 519,523. J. J. Brack, Basle, Switz.
Ramie. Apparatus for treating. 519,422.
Ramie. Apparatus for treating. 519,423. W. T. Forbes, Jersey City, N. J.
Sewing Looped Fabrics. Machine for. 520,208 and 520,209. J. Kohler, Simbach, Germany.
Shaping Fleecy Masses. Machine for. 520,419. E. Goldman, Baltimore, Md.
Shuttle Operating Mechanism for Narrow Ware Looms. 519,896. A. Weimar, Philadelphia, Pa.
Spinning Frame Tension Device. 520,473. Paterson, New Jersey.
Spinning Machinery. 519,491. E. K. Baker Springfield, Mass.
Spinning and Doubling Machines. Spindle and Support for. 519,532. J. Hargreaves, Bolton, Eng.
Spinning Spindle. Device for plumbing top rail. 519,716. J. P. Kelley, Saco, Maine.
Spool Support. 519,669. T. C. Dill, Philadelphia, Pa., assignor to Dill Spool Support Co., same place and Camden, N. J.
Stop Motion. 519,295. C. A. Taft, Whitinsville, Mass., assignor to Whitin Machine Co., same place.
Stop Motion. 519,463. S. B. Westcott, Hill Grove, R. I.
Swivel Loom. 519,802. H. and P. D. Westerhoff, Paterson, N. J.
Warp Fabric. 519,101. S. Spooner, Brooklyn, N. Y., assignor to Jennings Lace Works, New York.
Wool Washing Machine. 519,635. W. and A. W. Blackburn, Cleckheaton, England.

Fires.

—LOUISIANA, New Orleans. The works of the Orleans Yarn & Knitting Co. Ltd., on St. Ferdinand St., have been totally destroyed by fire. The loss on building, stock and machinery is estimated at about $65,000. Insurance $57,500.

—MAINE, Vassalboro. The mill of Charles A. Greenwood & Co., manufacturers of repellant and shoddy, was recently destroyed by fire. Loss on buildings $2000; on machinery, etc., $3000. No insurance.

—MASSACHUSETTS, Fall River. Fire in the mills of the Stevens Mfg. Co. recently caused a loss of about $500.

—NEW BRUNSWICK, Willow Grove. The woolen mill of Wm. McLellan was recently destroyed by fire. Loss $5000. Insurance $2000.

—NEW HAMPSHIRE, Milford. The bleachery of John Quinland & Co. was destroyed by fire June 6. Loss $4000. No insurance.

—NEW YORK, Little Falls. Fire broke out in the picker room of Robert Mackinnon's knitting mill May 15, causing a loss of about $800 on the cotton and about $30 on machinery. Covered by insurance.

—ONTARIO, Berlin. The shoddy mill of J. T. Huber & Co. was recently destroyed by fire.

—PENNSYLVANIA, Philadelphia. The works of Abraham Binns, manufacturer of chenille curtains, was partially destroyed by fire recently. Loss about $4000. Covered by insurance.

—QUEBEC, Montreal. The Montreal Silk Mills were recently damaged by fire. The loss by fire and water is about $40,000.

Failures and Suspensions.

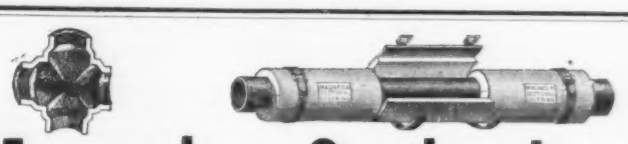
—ARKANSAS, Little Rock. A consent decree has been entered by Judge Williams in the suit of Receiver Cockrill against the Little Rock Cotton Mills, et al., by which C. M. Butler becomes the purchaser of the property at private sale, on payment of $15,000 therefor.

—INDIANA, New Albany. The affairs of the New Albany Woolen Co. have been taken out of the hands of the receiver, the Fidelity Trust Co., of Louisville. A satisfactory settlement has been arranged with the creditors on a basis of seventy-five cents on the dollar, part in cash and part in notes. The company will reorganize at once, and the mills will resume operations.

—NEW JERSEY, Paterson. An attachment has been received by the sheriff for $542.65 against the Hamilton Silk Mfg. Co., in favor of Edward Michel for merchandise sold to the company by E. Palidini. No property could be found to levy upon.

—NEW YORK, Amsterdam. John N. Van Antwerp, proprietor of the Pioneer Knitting Mills, has made an assignment to W. B. Dunlap. His liabilities are about $50,000, while his assets, aside from the knitting mill property, are about $28,000. The mill and machinery are valued at $60,000.

—NEW YORK, Monroe. The Hartley Silk Mfg. Co., silk throwsters, have failed. It is said that they have been running their mill at a loss for some time.



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TEXTILE MILLS WANTED

ALONG THE

BALTIMORE - AND - OHIO - RAILROAD.

OFFICE OF LAND AND IMMIGRATION AGENT.

BALTIMORE, MD., May 10, 1894.

MESSRS. GUILD & LORD, "Textile World,"
Boston, Mass.

GENTLEMEN:

Without doubt the very best locations available for Textile Mills, exist in the Upper South. We have a great many cities and towns along the Baltimore & Ohio Railroad affording an abundance of desirable and cheap labor, as well as numerous natural advantages. Additional capital will be supplied under certain conditions. We now want a woolen mill, two silk mills, a hosiery and underwear factory, a cotton and carpet mill. If any of your readers desire to make a change of location, we will be pleased to show them what this country affords, and with that end in view I will be glad to hear from anyone interested.

Yours respectfully,

M. V. RICHARDS, Land and Immigration Agent, B. & O. R. R.

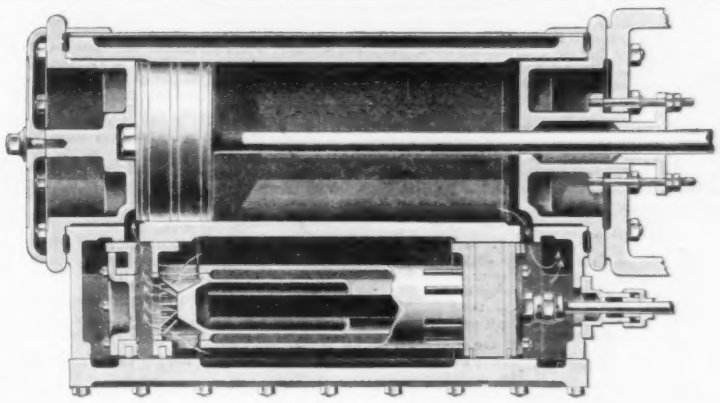

FIG. 4. AMERICAN ENGINE. (See page 22.)

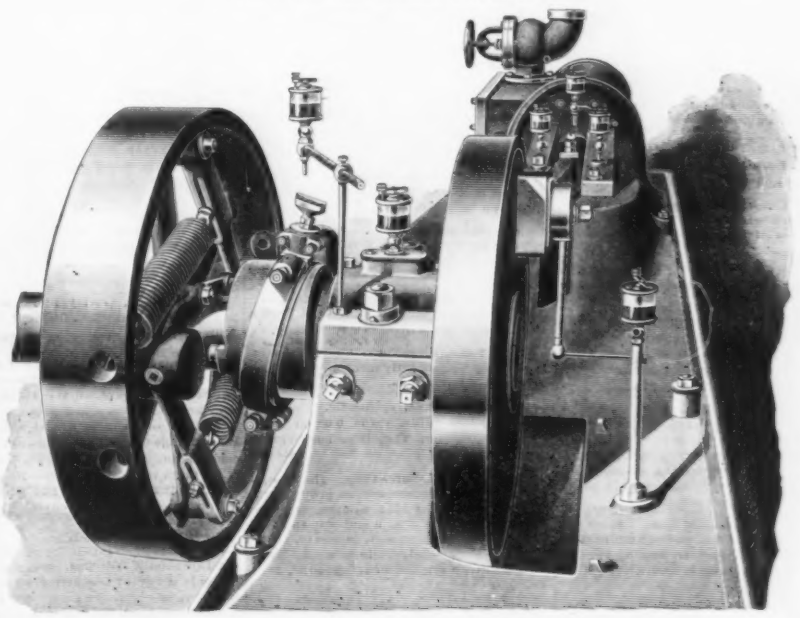

FIG. 5. AMERICAN ENGINE. (See page 22.)

MILL NEWS.

Continued from Page 28.

Enlargements and Improvements.

Cotton.

—GEORGIA, Columbus. The Swift Mfg. Co., manufacturers of plaids, tickings, denims and quilts, will add 512 spindles to their spinning department.

—GEORGIA, Roswell. The Roswell Mfg. Co. contemplate putting in more looms into their mill, in order to manufacture goods from their fine yarn.

—GEORGIA, White Hall. The Georgia Mfg. Co. will put in 128 new looms for the purpose of weaving a fine grade of goods.

—MASSACHUSETTS, Fall River. The Robeson Mills are putting in a lot of machinery for frame spinning from the Whitin Machine Works.

—MASSACHUSETTS, Fall River. New machinery is being added to the Tecumseh Mills.

—MASSACHUSETTS, Lawrence. The Pemberton Mills company will increase the capacity of their weaving department by building an additional story.

—MASSACHUSETTS, New Bedford. The Acushnet Mills are adding 90 new spinning frames to their plant, and have placed an order for 350 new looms.

—MASSACHUSETTS, North Adams. The Windsor Co., prints, are to build a drying house, 80x50 feet, two stories high.

—MASSACHUSETTS, Oakdale. The L. M. Harris Mfg. Co. is putting in new machinery for frame spinning.

—MASSACHUSETTS, Williamstown. The Williamstown Mfg. Co. has added eight new looms to its weaving department.

—NORTH CAROLINA, Charlotte. The Crowley Mfg. Co. have started work on the addition to their mill, which we previously reported. It will be in the shape of an L 50x65 feet, and they will put in about forty looms. They expect to be ready for operation in about a month.

—NORTH CAROLINA, Randleman. The Powhattan Cotton Mills company are preparing to build a dye house, in which to dye their warps.

—PENNSYLVANIA, Philadelphia. The building owned by Frederick Rumpf & Bros., recently damaged by fire, is being reconstructed. The portion occupied by Rumpf & Bros. has been fitted up and part of that occupied by Brown Bros. & Aberle Co. It is expected to have the entire building in shape by September.

—PENNSYLVANIA, Philadelphia. William Wood & Co., manufacturers of cassimeres, flannels, skirtings, etc., have leased a portion of the Bridesburg Mfg. Co.'s plant for the manufacture of cotton goods, and have commenced operations in part.

—PENNSYLVANIA, Philadelphia. James B. Ward & Bro., manufacturers of Turkish towels, quilts, etc., will enlarge their weaving department by the addition of new looms. They have also added a new bleaching department.

—RHODE ISLAND, Crompton. The Crompton Co., manufacturers of print cloths, velveteen and corduroy, are putting in new machinery.

—RHODE ISLAND, Pawtucket. The old mill of the R. B. Gage Mfg. Co. has been purchased by Woonsocket parties, who will manufacture cotton yarn and also put in new machinery for weaving.

—RHODE ISLAND, Slatersville. John W. Slater, ginghams, dress goods, cheviots, etc., is building a new weave shed, 235x95 feet, two stories, with an engine house. He will put in new engine and boilers.

—SOUTH CAROLINA, Charleston. The Royal Bag Mfg. Co. contemplate putting in new machinery and making other improvements.

—SOUTH CAROLINA, Reedy River. The addition which is being built to the mill of the Reedy River Mfg. Co. is now about completed.

Woolen.

—CONNECTICUT, Stafford Springs. The Warren Woolen Co. are putting in new machinery.

—CONNECTICUT, Thompsonville. The Hartford Carpet Co. are preparing to erect a new building to be used as a wool store house. The structure will be of brick, 250x60 feet, three stories high.

—GEORGIA, Columbus. The Eagle & Phœnix Mfg. Co. will build an addition to the wool weaving department of their mill, and will put in about fifty looms and new finishing machinery, for the manufacture of jeans, kerseys, etc. Production of goods will begin in about two months.

—MAINE, Camden. The Knox Woolen Co. inform us that they will build an addition to their mill. A 70 h. p. boiler, heating apparatus, roofing and automatic sprinklers will be required.

—MASSACHUSETTS, Charlton City. New machinery is being placed in the mill of Akers & Taylor, causing a partial shut down.

—NEW HAMPSHIRE, Peterboro. Jos. Noone's, Sons Co. have built an addition to their plant, and will put in new fulling mills, cloth dryers and a large carbonizing plant.

—NEW YORK, West Troy. James Roy & Co., shawls, cassimeres and suitings, have put in eighteen new looms into their plant.

—NOVA SCOTIA, Oxford. The Oxford Wool Mfg. Co., cheviots, cassimeres, heavy tweeds, etc., contemplate erecting an iron building 30x50 feet, in which they will place the pickers, cards and other machinery.

—QUEBEC, Cape St. Ignace. Elzear Methot has added a set of cards to his woolen mill. He is also putting in other new machinery.

Knit.

—MASSACHUSETTS, Easthampton. Knitting machinery is being set up in the Williston Mills, for the manufacture of ladies' knit underwear. None of it is running yet as the outfit is not complete.

—MASSACHUSETTS, Linden. New machinery is being placed in the knitting factory of E. Collins & Co.

—ONTARIO, Galt. Charles Turnbull & Co. are placing additional machinery in their knitting mills.

—ONTARIO, Perth. T. A. Code, proprietor of the Tay Knitting Mill, is building an addition to his plant. The new structure will be 50x40 feet, three stories high, and new machinery will also be added. This company manufactures hosiery, mitts, etc.

—PENNSYLVANIA, Allentown. An addition 50x100 feet, three stories high, will be built to the Adelaide Silk Factory.

—PENNSYLVANIA Columbia. Ashley & Bailey are putting in three new looms into their silk mill at this place.

—PENNSYLVANIA, Bristol. Lewis Jones has put in additional machinery in his hosiery department.

—PENNSYLVANIA, Nazareth. The Nazareth Mfg. Co. are making plans for another extension to their mill sometime during the year.

—PENNSYLVANIA, Royersford. An addition is being built to the hosiery mill of E. Emmers & Co.

—WASHINGTON, Seattle. The Seatle Woolen Mills Co., blankets, flannels and cassimeres, have put in machinery for the manufacture of hosiery.

Miscellaneous.

—CONNECTICUT, Norwich. The Norwich Bleaching, Dyeing & Printing Co. are building an addition to their print works. The new structure will be 60x30 feet, two stories high.

Mills Starting Up.

Cotton.

—ALABAMA, Talladega. It is expected that the new Talladega Cotton Factory will begin production in a short time. The machinery is being put in. This company will manufacture cotton yarns, 6 to 20s. S. D. Kyser is president, T. S. Plowman, treasurer, and G. A. Jonier, secretary.

—DELAWARE, Wilmington. The Arlington Mfg. Co. have started up their mills. They have been shut down for repairs.

—GEORGIA, West Point. The new Lanett Cotton Mills which we have reported several times, are about completed and ready to begin production. They will manufacture drills, duck and broad sheeting. The capacity of the mill is 26,000 spindles.

—MARYLAND, Oella. The Oella Mills have resumed work after a suspension of eight days on account of flood damages. The loss to the Oella Mills is estimated at abont $20,000.

—MASSACHUSETTS, Fitchburg. The Fitchburg Duck Mills have resumed operations with a small reduction in wages. They have been closed for about a month, and during the time have been making some repairs.

—MASSACHUSETTS, Oakdale. The cotton warp mill of S. R. Warfield, it is reported, will be started up in a short time. This mill has been closed for several months.

—MASSACHUSETTS, South Hadley Falls. It is expected that the mills of the Glasgow Co. will be started up shortly. A large amount of harnesses for the weaving department has arrived.

—NEW BRUNSWICK, Moncton. Work was resumed at the Dominion Cotton Mills Co. June 4, on full time.

—NEW BRUNSWICK, St. John. Work has been resumed at the New Brunswick Cotton Mills, the employees accepting the reduction of wages at which they went out on strike.

—NEW HAMPSHIRE, Exeter. The machinery is being set up in the new mill of the Exeter Mfg. Co. and they will start up gradually.

—NEW YORK, New York. The Patchogue Lace Mfg. Co., recently incorporated, have commenced operations.

—NORTH CAROLINA, Reidsville. The Hermitage Cotton Mills, yarns, 6000 spindles, will be started up. They have been closed for three months.

—PENNSYLVANIA, Norristown. The Wyoming Mills, Wm. Simpson & Sons, proprietors, after an idleness of nine months, have resumed operations with about one third of their force. They expect, however, to be running full handed within a week. They manufacture warp and weaving yarns, 20 to 30s.

—PENNSYLVANIA, Norristown. The Wyoming Mills have resumed operations. They have been closed down since the high water.

—SOUTH CAROLINA, Rock Hill. The Rock Hill Cotton Factory has started up in part, and will soon run to its full capacity.

—SOUTH CAROLINA, Spartanburg. The Spartan Mills have resumed operation. They shut down in February, on account of the breaking of a drive wheel, and have since been making necessary repairs.

—TENNESSEE, Athens. The North Athens Mfg. Co., carpet warps, yarns, etc., have resumed operations, after a long idleness.

Woolen.

—CONNECTICUT, Yantic. The Yantic Woolen Co. will resume operations May 21, on full time.

—MASSACHUSETTS, East Brookfield. The woolen mill belonging to Noah Sagendorph has been leased by Charles Heritage of Hampden, who will commence operations in the same at once.

—MASSACHUSETTS, East Dedham. The Norfolk Mill, controlled by the Merchants' Woolen Co., has been leased, it is reported, and will start up in a short time. The mill has been idle for several years.

—MASSACHUSETTS, Graniteville. The Abbott Mills, carpet yarns, has started up with a small complement of help.

—MASSACHUSETTS, Lowell. The Lowell Mfg. Co. has started up its ingrain department.

—MASSACHUSETTS, Uxbridge. Work will be resumed in part at the Rivulet Mill, R. Sayles & Co., proprietors.

—MICHIGAN, Carsonville. We have the report that the new woolen mill which has been built at Carsonville has commenced production.

—MINNESOTA, Chatfield. Operations have been resumed at the woolen mill of N. Marsden.

—NEW HAMPSHIRE, Ashuelot. The No. 2 Mill of E. C. Thayer has resumed work on full time.

—NEW HAMPSHIRE, Penacook. The Dustin Island Woolen Mills, E. S. Harris, proprietor, 5 set, have started up.

—NEW JERSEY, Garfield. The Garfield Woolen Co. have started up their new mill. They will manufacture fine all-wool shoddies and extracts.

—NEW YORK, Greene. The Greene Woolen Mills have been purchased by Marcus Bebro, of New York, who, it is expected, will start them up on a larger scale and with improved machinery. These mills have been closed since last June, owing to the failure of A. J. Scott.

—NEW YORK, Pulaski. Mahoffy Bros., manufacturers of yarns, flannels and cassimeres, have resumed operations, after being shut down for five months.

—NORTH CAROLINA, Mount Airy. The mill of the Green Hill Mfg. Co. has again changed hands. This time it was purchased by M. J. Hawkins, of Warrenton, N. C., who will put the plant in operation. Extensive repairs are being made.

RHODE ISLAND, Davisville. Work has been resumed at the Reynoldsville Mfg. Co.

—RHODE ISLAND, Westerly. Work has been resumed at the mills of the West Side Woolen Co.

Knit.

—CONNECTICUT, Bristol. The Bristol Mfg. Co., eight set, knit underwear, has started up on full time.

—INDIANA, Lafayette. The Lafayette Hosiery Co., lately reorganized, started operations June 1st.

—NEW YORK, Esperance. The Esperance Knitting Mills, which we reported had been leased by Watson P. Harvey, of the Lee Mfg. Co., Amsterdam, had been put in operation. They are now only running with a small force but will rapidly increase.

—NEW YORK, Stittville. Work has been resumed at the Empire State Knitting Mill, Hackett & Atwood, proprietors, the repairs after the recent fire having been completed.

—PENNSYLVANIA, Norristown. The third-story addition to the Globe Knitting Mills, Rambo & Regar, proprietors, is completed, machinery is being put in, and they are about to begin operation.

—PENNSYLVANIA, Reading. The stocking factory of W. J. Bobst & Son, which has been idle for several months, has resumed operations.

Silk.

—CONNECTICUT, Gurleyville. Work has been resumed at the silk mill of W. E. Williams.

—NEW JERSEY, Paterson. The strike of the silk ribbon weavers is practically ended. The New York weavers first decided to yield, which caused a break in the Paterson ranks. A number of weavers are at work in the Wm. Strange Co. mill, and those of the Hitchcock-Meding Co. returned in a body. The other mills will settle the matter individually, but it is expected that all hands will return to work. The general strike has lasted for twelve weeks.

—NEW JERSEY, West Hoboken. The Giver nand Bros. Silk Mill was reopened May 29, but only a few of the strikers returned to work. A few weavers from New York and Paterson applied for work and were accepted, and it is understood that about 150 looms are running.

Miscellaneous.

—MASSACHUSETTS, Westfield. Work has been resumed at the works of the Textile Mfg. Co. This mill has been closed for nearly two months on account of being damaged by fire, during which time repairs have been made and also improvements.

—NEW YORK, Unionville. The Unionville Silk Co. have commenced operations at their new mill.

Mills Shutting Down.

Cotton.

—MAINE, Westbrook. The Westbrook Mfg. Co., ginghams and sail ducks, have again made a 10 per cent. reduction in wages, and it is expected that they will close their mills the first of July.

—MASSACHUSETTS, Easthampton. The weaving department of the Nashawannuck Mfg. Co.'s mills have shut down until further notice.

—MASSACHUSETTS, Fall River. The Durfee Mills, Nos. 1 and 3, will be shut down for alterations and repairs.

—MASSACHUSETTS, New Bedford. The No. 6 Wamsutta Mill, where the weavers have been on strike for over three months, has been closed down indefinitely. Attempts were made to keep the mills running but without success.

—NEW HAMPSHIRE, Nashua. The Nashua Mfg. Co. have shut down their mills for the purpose of putting in new water wheels.

—NORTH CAROLINA, Burlington. The Carolina Cotton Mills have closed for an indefinite time.

—NORTH CAROLINA, Stanley Creek. Work has been suspended at the Stanley Creek Cotton Mills, A. P. Rhyme, proprietor.

—NOVA SCOTIA, Windsor. The Dominion Cotton Mills Co. have closed their mills, and they will remain idle until trade improves.

—RHODE ISLAND, Hope Valley. The print cloth mills of Nichols & Langworthy have been closed owing to the short supply of water.

Woolen.

—MASSACHUSETTS, Lowell. The Lowell Mfg. Co., which has been running in part for some time, will close down indefinitely.

—NEW HAMPSHIRE, Dover. The Sawyer Woolen Mills have shut down to make repairs in the dry house. The No. 5 Mill of the Cocheco Mfg. Co. has also shut down indefinitely.

—NEW YORK, Jamestown. The Jamestown Woolen Mills, three set, cassimeres and flannels, are shut down, with no prospect of starting up very soon.

—OHIO, Hillsboro. The J. S. Ellifritz & Co. woolen mills, flannels, blankets, yarns, etc., have closed on account of having no stock and no market for their goods.

—ONTARIO, Clarksburg. J. Nelson, manufacturer of blankets and stoffs, has closed his mill for repairs.

—PENNSYLVANIA, Norristown. The Norristown Woolen Mills and the Wyoming Mills are shut down on account of the flood.

—PENNSYLVANIA, Upland. The shoddy mill of J. Walworth & Sons has shut down, and will remain closed until business brightens.

—RHODE ISLAND, Allentown. The Rodman Mfg. Co., doeskins and jeans, located also at Lafayette and Wakefield, have closed their mills temporarily, owing to lack of orders.

—VERMONT, Ludlow. The Ludlow Woolen Mills have been closed, owing to the illness of Mr. Gill, the principal stockholder.

Knit.

—CONNECTICUT, Glastonbury. The Glastonbury Knitting Co. will close down its mills for the summer.

—MASSACHUSETTS, Newton Upper Falls. On account of the strike at the silk mill of Phipps & Train, the management have closed the mills.

—NEW YORK, Baldwinsville. J. C. & J. C. Miller are preparing to shut down their knitting mill to make repairs and introduce new machinery.

—NEW YORK, Cohoes. The Diamond Knitting Mills, J. H. Himes, proprietor, is running out stock preparatory to shutting down for an indefinite period.

—NEW YORK, Cohoes. The J. C. Sanford knitting mill has shut down for an indefinite period.

—NEW YORK, Seneca Falls. The Gleason Knitting & Mfg. Co., a 20 set plant, underwear, has closed permanently. The shutdown, it is said, was caused by the low prices on goods, which leaves no profit in the business.

Facts and Gossip.

—CONNECTICUT, Middletown. L. D. Brown & Son, silk manufacturers, have filed a certificate of increase of capital stock from $100,000 to $150,000.

—ILLINOIS, Chicago. The Morris Woolen Co. has been incorporated, with capital stock of $50,000. The incorporators are Louis Morris, Adolph Goldschmidt and Raphael S. Stern.

—ILLINOIS, Fulton. We have report that the Penn. Cotton Mills plant will be located at this place, where a new building 84x287 feet will be built. This company was formerly located at Allegheny City, Penn. The machinery was afterwards moved to Chicago, and a stock company was formed, having a capital of $200,000.

—MAINE, Saco. The York Mfg. Co. are running four days per week, the Laconia and Pepperell, Biddeford, full time. The Saco Water Power Machine Shop has only half a dozen to a dozen men at work, we understand, and the prospect of starting up the plant is something that seems very indefinite.

—MASSACHUSETTS, Fitchburg. Large amounts of machinery are arriving daily for the Nockege Mills. They will manufacture print cloths, and expect to start up in October.

—MASSACHUSETTS, Lowell. A pulley in one of the spinning rooms of the Merrimack Mfg. Co. recently burst into two pieces, one piece breaking into the weave room below and through that floor to the basement. Four of the looms sank through the floor, and it is said that the damage will amount to about $5000.

—MASSACHUSETTS, Springfield. It is rumored that there are immediate changes and enlargements to be made in the Springfield Narrow Fabric Co., and that the new proprietors will change the location and greatly increase the plant.

—NEW HAMPSHIRE, Lakeport. H. H. Wood & Co., manufacturers of woolen hosiery, have received orders sufficient to keep running for the whole season, and are now working eighteen hours a day. George W. Cole is superintendent and salesman.

—NEW JERSEY, Paterson. The firm of Ashley & Bailey, silk manufacturers, dress goods, handkerchiefs, etc., has been incorporated with capital stock of $800,000, all paid in. The stock holders are Peter Bailey, 3999 shares; Dwight Ashley, 3999 shares; George Bailey, 1 share, and Josiah J. Bailey, 1 share.

—NEW YORK, Greenbush. We recently reported that Messrs. Huyck & Argersinger would rebuild their mill, which was burned at Albany, at this place. A later report has it that the firm has dissolved partnership, and that Mr. Huyck and others will operate the mill.

—NEW YORK, Mechanicsville. The Empire State Knitting Co. has made application to have its name changed to the Tenendado Knitting Co.

—NEW YORK, Sidney. Mr. J. H. Clark, manufacturer of silk gloves, will remove the remainder of his mills from Argusville to Sidney.

—NEW YORK, St. Johnsville. Chas. Severson & Co., manufacturer of seamless half hose, will remove his machinery into the upper story of P. J. Yonker's saw mill, where he will continue his business.

—PENNSYLVANIA, Conshohocken. The mill of J. Hall, manufacturer of Venetian and damask carpets, and also C. E. Markland's shoddy mill, have been badly damaged by the recent flood, Mr. Hall estimates his loss at about $20,000, and the loss at Mr. Markland's is placed at $10,000.

—PENNSYLVANIA, Conshohocken. The Conshohocken Woolen Co. are considering the proposition to decrease their capital stock from $300,000 to $250,000.

—PENNSYLVANIA, Germantown. The copartnership existing between Chas. Chipman, Frank L. Chipman and W. Evan Chipman, trading as Chas. Chipman & Sons, has been dissolved, the senior member, Mr. Chas. Chipman, retiring. The remaining partners will carry on the business under the firm name of Chas. Chipman's Sons. They manufacture hosiery.

—PENNSYLVANIA, Parsons. Bamford Bros. of Paterson, have decided to remove their silk plant to this place. Work on the buildings will be commenced at once, and looms will be placed in Armory Hall immediately, to be run while the building is being constructed.

—PENNSYLVANIA, Philadelphia. The copartnership heretofore existing under the firm name of Erben, Search & Co. has been dissolved by limitation, Theo. C. Search having retired. A limited partnership has been formed under the firm name of Erben, Harding & Co. The general partners of the new firm are Henry Erben, Chas. H. Harding, Walter Erben and Warner J. Banes. The special partners are George W. Fiss, Chas. Banes, John Yewdall and John B. Stetson.

—PENNSYLVANIA, Philadelphia. John Blood and John Diggle, trading as John Blood & Co., have dissolved partnership. Mr. Blood will continue the business of manufacturing cut and seamless hosiery under the old firm title.

—RHODE ISLAND, Newport. The stock and fixtures of the Newport Elastic Fabric Co., which recently went into the receiver's hands, were sold May 31, to the E. R. Goodridge Mfg. Co., manufacturers of elastic webbing, at Newport.

—RHODE ISLAND, Valley Falls. It is stated that the Valley Falls Co. have exchanged their entire plant for that of the Albion Mfg. Co., Albion, R. I., receiving also a cash bonus of nearly $100,000. The Valley Falls Co. have hitherto manufactured colored goods, but found it unprofitable. They wished to change over to white goods, but had no sufficient money for the necessary equipment. This exchange enables them to accomplish it. The Albion Co. have plenty of money, it is stated, and will continue the white goods business. The officials of the companies also exchange places. Both mill properties are owned by branches of the same family.

— TEXAS, Terrell. The Terrell Batting Mill Co., of this place, has been incorporated, with capital of $10,000. The incorporators are A. T. Schmid, B. L. Gill, B. E. Overton and others.

READY REFERENCE LIST

FOR

Textile Products and Raw Stock.

This index is intended to be of special value for instant reference, as to sources of supply for any desired line of domestic dry goods. It is our intention to have in each line a good representative list of the principal, and also smaller manufacturers, and to increase the list largely, meantime securing the greatest accuracy possible.

For smaller and odd lines it will be made of special value, and new headings added as experience and contact with buyers may suggest.

It is our intent to make this of positive value to both buyer and manufacturer or commission merchant, and all suggestions looking to increasing its usefulness will be carefully considered.

Correspondence solicited with those who desire their addresses to appear.

COTTON GOODS.

Awning Stripes.

Sibley Mfg Co, Augusta, Ga.

Batting.

Massasoit Mfg Co, Fall River, Mass.

Cheviots.

Slatersville Mills, Slatersville, R. I.

Cotton Blankets.

Tremont & Suffolk Mills, Lowell, Mass.

Colored Cotton Goods.

Barnaby Mfg Co, Fall River, Mass.
Lewiston Mill Co, Lewiston, Me.

Corset Nets, Summer.

Wachusett Mills, Worcester, Mass.

Denims.

Pemberton Co, Lawrence, Mass.
White Bros, Winchendon Springs, Mass.

Domets, Plain and Fancy.

Eastwood Cotton Mill, Fall River, Mass.
Tremont & Suffolk Mills, Lowell, Mass.

Domets. E. M. D.

Pemberton Co, Lawrence, Mass.

Fancy Cotton Goods.

Berkshire Cotton Mfg Co, Adams, Mass.
Potomska Mills, New Bedford, Mass.
Salmon Falls Mfg Co, Salmon Falls, N. H.
Wachusett Mills, Worcester, Mass.

Fancy Embroidery Fabrics.

Wachusett Mills, Worcester, Mass.

Fine Shirtings and Dress Fabrics

Aberfoyle Mfg Co, Chester, Pa.
Appleton Co, Lowell, Mass.
Williamsville Mfg Co, Killingly Ct.

Flannels, Cotton.

Elizabeth Poole Mills, Taunton, Mass.
Hamilton Mfg Co, Lowell, Mass.
Tremont & Suffolk Mills, Lowell, Mass.

Flannels, Hathaway.

Methuen Co, Methuen, Mass.

Ginghams.

Slatersville Mills, Slatersville, R. I.

Lawns.

Continental Mills, Lewiston, Me.
Potomska Mills, New Bedford, Mass.

Lenos.

Pequot Mills, Montville, Ct,
Wachusett Mills, Worcester, Mass.

Machinery Wipers.

Franklin Cotton Mfg. Co., Franklin, Mass.
Massasoit Mfg Co. Fall River, Mass.

Outing Cloth.

Tremont & Suffolk Mills. Lowell, Mass.

Prints.

Allen's Print Works, Providence, R. I.
American Print Works, Fall River, Mass.
Cocheco Print Works, Dover, N H.

Prints.

Dutchess Co, Wappinger's Falls, N Y.
Eddystone Mfg Co, Chester, Pa.
Hamilton Mfg Co, Lowell, Mass.
Merrimack Print Wks, Lowell, Mass.
Pacific Mills, Lawrence, Mass.
Passaic Print Works, Passaic, N J.
Windsor Co, N Adams, Mass.

Quilts.

Stevens Mfg Co, Fall River, Mass.

Sateens.

Berkshire Cotton Mfg Co, Adams, Mass.
Continental Mills, Lewiston, Me.
Metacomet Mfg Co, Fall River, Mass.
Potomska Mills. New Bedford, Mass.
Salmon Falls Mfg Co, Salmon Falls N H.

Scrims.

Wachusett Mills. Worcester, Mass.

Sheetings. Brown and Bleached.

Continental Mills, Lewiston, Me.

Skirts, Fancy.

Methuen Co, Methuen, Mass.

Tickings.

Hamilton Mfg Co, Lowell, Mass.
Pemberton Co, Lawrence, Mass.

Twills.

Continental Mills, Lewiston, Me.

Wide Cotton Goods.

Wampanoag Mills, Fall River, Mass.

Yarn and Warp Printers,

John Forrest, 25th & Callowhill Sts, Phila, Pa.

WOOLEN GOODS.

Beavers.

Collins, M, Woolen Mills, Collinsville, Mass.

Blankets.

Cordaville Woolen Co, Cordaville, Mass.
New Albany Woolen & Cotton Mills, New Albany, Ind.
Northern Ohio Blanket Mills, Cleveland, O.
North Star Woolen Mill, Minneapolis, Minn.
Rock Falls Woolen Co, Middletown, Ct.
Winthrop Mills Co, Winthrop, Me.

Carriage Linings.

Dustin Island Woolen Mill, Penacook, N. H.

Cashmerettes.

Hatile & Frost Mfg Co, Hinsdale, N H.
Hinsdale Woolen Mill, Hinsdale, N H.

Cassimeres.

Blackinton, S, Wm Co, Blackinton, Mass.
Chase, Jno & Sons, Webster, Mass
Devonshire Mills, Goff's Falls, N H.
Old Kentucky Woolen Mills Co, Louisville, Ky.
Rock Mfg. Co, Rockville, Ct.
Sawyer Woolen Mills, Dover, N. H.

Cheviots.

Sawyer Woolen Mills, Dover, N. H.
Slater Woolen Co, Webster, Mass.
Talbot Mills, N. Billerica, Mass.

Cotton Worsteds.

Simpson & Moore, Manayunk, Pa.

Dress Goods.

Brown & Ackroyd, Lawrence, Mass.
Sagehomme & Byers, No Andover, Mass.
Washington Mills, Lawrence, Mass.

Felts.

City Mills Co, City Mills, Mass.
Dolge, Alfred & Son, 110 East 14th St, New York.
Piqua Win Mills (for paper mks), Piqua, O.
Union Mfg Co, Norwalk, Ct.

Flannels.

Allen, L L & Bros, Rochester N Y, and 99 Franklin St, N Y.
Hayward, H T, Franklin, Mass.
Jamestown Woolen Mills, Jamestown, N J.
Kay, Thos, Woolen Mill Co, Salem, Ore.
Kent, Thomas, Mfg Co, Clifton Heights, Pa.
Knoxville Woolen Mill, Knoxville, Ia.
Louisville Woolen Mills, Madison, Ind.
Middlesex Co, Lowell, Mass.
Mascoma Flannel Co, Lebanon, N. H.
Olney, Geo W, Cherry Valley, Mass.
Simpson & Moore, Manayunk, Pa.
Slater Woolen Co, Webster, Mass
Stirling Mills, Lowell, Mass.
Talbot Mills, N Billerica, Mass

Horse Blankets, Etc.

Monadnock Blanket Co, Marlboro, N H.
Ray Fabric Mills, Franklin, Mass.
Riley, Wm B, & Co, 507 Arch St, Phila, Pa.
Rockfall Woolen Co, Middletown, Conn.
Troy Blanket Mills, Troy, N H.

Jeans Pants.

Henderson Woolen Mills, Henderson Ky, "Celebrated Bull Breeches."

Kerseys.

Ashland Mfg Co, Wetheredville, Md.
Dobson, Jno & Jas Co, 28 N Front St, Phila
New Albany Woolen & Cotton Mills, New Albany, Ind.
Worumbo Mills, Lisbon Falls, Me.

Meltons.

Globe Mills, Utica, N Y.
Germania Mills, Holyoke, Mass.
Ottaqueechee Woolen Co, N Hartland, Vt.
Pomeroy, Theo L, Pittsfield, Mass.

Military Goods.

Sawyer Woolen Mills, Dover, N H.
Charlottesville Win Mill, Charlottesville, Va.

Overcoatings.

Georges River Mills, Warren, Me.
Washington Mills, Lawrence, Mass.
Worumbo Mills, Lisbon Falls, Me.

Repellants.

Cumberland Mills, Lewiston, Me.
Hudson River Woolen Mills, Newburgh, N V.
Robinson Mfg Co, Oxford, Me.
Winthrop Mills Co, Winthrop, Me.

Satinets.

Abbot Woolen Mills, Abbot P O, Me.
Aldrich, C T, Milbury, Mass.
Bigelow & Darling, Worcester, Mass.
Caryville Mills, Caryville, Mass.
Darling, Newton, Cherry Valley, Mass.
Kauffman, W H, Athol, Mass.
Quinapoxet Woolen Mills, Quinapoxet, Mass.
Tebo, D E, Athol, Mass.
Thayer, E D, Jr, Worcester, Mass.
Wood, D F, Northboro, Mass.

Worsted Suitings and Trouserings.

Chase, Jno & Sons, Webster, Mass.
Fulton Worsted Mills, Oswego, N Y.
Lymansville Co, of 61 Leonard St, N Y.
National Worsted Mills, Providence, R I.
Perseverance Worsted Co, Woonsocket, R I. C B Fillebrown & Co, Selling Agts, Boston and New York.
Rock Mfg Co. Rockville, Ct,
Sayles, Fred L, & Co, Pascoag, R I.
Sawyer, Woolen Mills, Dover, N H.
Simson & Kirkaldy, Woonsocket, R I.
Springville Mfg Co, Rockville, Ct.
Washington Mills, Lawrence, Mass.

Union Cass.

Taft, McKean & Co, Caryville, Mass.
Douglass Woolen Co, E Douglass, Mass.
Jefferson Mfg Co, Jefferson, Mass.
Northboro Mills, Northboro, Mass.
Logansport Woolen Mill, Logansport, Ind.
Manchester Woolen Mills, Manchester, Ia.
Hoosier Woolen Co, Indianapolis, Ind.

KNIT GOODS.

Athletic and Sporting Goods.

Roper, R G & Co, Highlandville, Mass.
Wye, Geo E, Needham, Mass.

Cardigan Jackets.

Baron, S & Co, 99 Franklin St, New York City.
Townsend, Edward, 2421 Waterloo St, Phil.
Woodcock Bros, Germantown, Pa.

Children's Seamless Ribbed Waists.

Nazareth Mfg Co, Nazareth, Pa.

Combination Suits.

Holmes Co, 109 Kingston St, Boston, Mass.

Eider Down.

French & Ward, Stoughton, Mass.

Fancy Knit Flannels.

French & Ward, Stoughton, Mass.

Fancy Knit Goods.

Barrows, David & Co, Nicetown, Phil.
Why Bros & Co, Germantown, Pa.

Fleece and Plush Linings.

Franklin Knitting Co, Franklin, Mass.

Hosiery.

Contoocook Mills Co, Hillsboro Bridge, N H
Lowell Hosiery Co, Lowell, Mass.
Pierce Thos A & Co, 1720 N 8th St, Phila.
Renfrew Mfg Co, Adams and Coral Sts, Philadelphia, Pa.
Sulloway Mills, Franklin, N H.
Taylor & Hawthorne Co, Wilmington, Del.

Knit Wrists for Glove Mfrs,

W D Gregory, 17 Kingsboro Ave, Gloversville, N Y.

Gloves, Mitts and Mittens.

Armstrong, Wm, Highlandville, Mass.
Conyers, Button & Co, Germantown, Pa.
Gloversville Hair Co. Ltd, Gloversville, N Y. (Also fulled mittens.)
Royal Knitting Co, Johnstown, N Y.
Western Knitting Mills, Detroit, Mich.
Why Bros & Co, Wakefield St, Germantown, Pa.

Mittens, Ladies' and Children's.

White, Isaac, Highlandville, Mass.

Mittens, Leggings and Equestrian Tights.

Max Lowenthal, Rochester, N Y.

Overshirts.

Groat, Edwin, Hudson, N Y.
Liddle Jno & W A, Amsterdam, N Y.

Ribbed Hosiery.

Chicago, Rockford Hosiery Co, Kenosha, Wis, Rockford, Ill.
Nazareth Mfg Co, Nazareth, Pa.

Scotch Caps.

Bayliss, Alfred, Utica, N Y.

Silk Hosiery.

Dalby, Thos. Watertown, Mass.
Friedman, H & Co, 29 Bank St, Cleveland, O.
Nonotuck Silk Co, Florence, Mass.

Silk Mittens.

Wye Bros, Needham, Mass.

Skirts and Capes, Hand Knit.

John Davenport, Highlandville, Mass.

Surgical Elastic Goods.

Gorse, Wm, Highlandville, Mass.

Sweaters.

Hub Mfg & Knitting Co, 119 Summer St, Boston.
Toone, Wm E, Highlandville, Mass.

Underwear.

Bailey, Herbert, Claremont, N H.
Commercial Knitting Mills, Troy, N Y.
Contoocook Mills Co, Hillsboro Bridge, N H.
Crane & Waters Co, Milbury, Mass.
Jaros Hygienic Underwear Co, 831 Broadway, New York.
Jones, Lewis Bristol, Pa.
Lawrence Mfg Co, Lowell, Mass.
Miami Valley Knig Mills, I & c, Hamilton, O.
Mosely & Co, Highlandville, Mass.
Piqua Hosiery Co, ladies & children, Piqua, O
Victor Knitting Mills, Little Falls, N Y.

Underwear, Men's.

Titus Shead Co. Little Falls, N Y.

Underwear, Infant's and Union Suits.

Max Lowenthal, Rochester, N Y.

Underwear, Men's and Women's Medium and Light Weight.

Harder Knitting Co, Hudson, N Y. Our specialty is 12 lbs. white Merino highest grade. Goods sold to Jobbers only. No agents. Address all inquiries direct to mill.

SILK GOODS.

Broad Silks.

Cheney Bros. S Manchester, Ct.
Haskell Silk Co, Westbrook, Me.
Natchoug Silk Co, Willimantic, Ct.

Braids, Trimmings, Etc.

Cheney Bros, S Manchester, Ct.
Friedburger S. 1227 Callowhill St, Phil, Pa.
Natchoug Silk Co. Willimantic, Ct

Knitting and Thread Yarns.

Champlain Silk Mills. Whitehall, N Y.

Organzines and Trams.

Cheney Bros, S Manchester Ct.
Saquoit Silk Mfg Co. 76 Chauncy St, Boston

Ribbons.

Cheney Bros. S Manchester, Ct.
Dodds, John, Paterson, N J.
Loth, Joseph & Co, 65 Greene St, N Y,
Rhenania Mills, office, 65 Greene St, N Y.
Strange, The Wm Co, Paterson, N J.
Weddeigen, Louis & Co. 474 Broom St, NY

Satins.

Cheney Bros, S Manchester, Ct.
Haskell Silk Co, Westbrook, Me.

Upholstery Goods.

Horstmann, Wm H & Sons, 500 Cherry St, Phila, Pa.
Hoyle, Harrison & Kaye, Lehigh Av, Phila.
Hunter, W, Jr & CO, Mascher, York St, Phila.
Lyons Silk & Tape Co, Paterson, N J.
Mitchell, Albert, 1817 E York St, Phila, Pa.
Nepaul Silk Tap Mills, 400 Cambria St, Phila.

Upholstery Trimmings.

Maguire, Wm J, 39-41 So. 2d St, Camden, N J.

Sewings and Twists.

Champlain Silk Mills, Whitehall, N Y.
Griswold Worsted Co. 322 Chestnut St, Phila.
Natchoug Silk Co, Willimantic, Ct,
Nonotuck Silk Co, 73 Green St, New York.
Saquoit Silk Mfg Co, 76 Chauncy St, Boston.
Walmsley, Philip, 34 Green St, N Y.

Silk Throwsters.

Byle, John C & Co, Stroudsburg, Pa.
Byle Wm, & Co, 54 Howard St, N Y.
Seaton & Baines, Allentown, Pa.
Strauss, F A, 93 Greene St, N Y.
Taylor, James, 116 River St, Paterson, N J.
Turner, A G, Willimantic, Ct.

Yarn Printers.

John Forrest, 25th Callowhill, Phila. Pa.

MISCELLANEOUS.

Burlaps.

Rogers, Gorham, & Co, 20 Federal St, Boston.

Clothes Lines.

Boscowan Mills, Penacook, N H.

Crash, Linen.

Stevens Linen Wks, Webster, Mass.

Boston Finishing Works

WILLIAMSTOWN, MASS.

BLEACHERS, DYERS AND FINISHERS

Of Pure Finish Shirtings, Sheetings, Canton Flannels and Filled Goods. Also Silesias, Satteens, Corset Jeans, Cambrics, Sleeve Linings, Pocketings, Flannelette, and all descriptions of Dyed Goods.

NAPPING A SPECIALTY.

Being equipped with the French and other Foreign and Domestic Napping Machines, we are prepared to give any kind of Nap required, including the French Flannel Finish.

Fish Lines.

Gates, Israel, Canonchet, R I.
Lawrence Line Co, Lawrence, Mass.
Meyer, John C & Co, 289 Devonshire St Boston
Pawtucket Braided Line Co, Pawtucket, R I.

Felt Shoes and Slippers.

Dolge, Alfred.
Matteawan Felting Co, Easton, Pa.

Fire Hose.

Boston Woven Hose & Rubber Co, Cambridgeport, Mass.
Eureka Fire Hose Co, Henry and Cranberry Sts, Brooklyn, N Y.
Fabric Fire Hose Co, Warwick, N Y.

Hair Cloth.

Lehmuth & Glenk, N E Cor Somerset & Palanthorp St, Phila, Pa.
Pawtucket Hair Cloth Co, Pawtucket, R I.

Hammocks and Horse Fly Nets.

F. A. Langewald & Son, Willimansett, Mass.

Lacings for Knit Goods.

Hepner & Horwitz, 84 Leonard St, N Y.

Narrow Fabrics.

Krout & Fite, 2832-40 Mascher St, Phila.

Pearl Buttons.

Bloomenthal, B & Co. 388 Broadway, NY.
Crouse Hy W, 347 Broadway, N Y.
Webb, Jos, Nassau Works, Newark, N J.
Whatton, Newey & Whatton, Nassau Works, Newark, N J.

Plush.

Mass Mohair Plush Co. Lowell, Mass.

Machinery Wipers.

Crossley Bros, 2120 Charter St, Phila, Pa.
Illingworth, S & E & Co, 119 No Front St, Phila, Pa. (Silk)

Tapes and Braids.

Chadburn & Moore, Springfield, Mass, and 130 Bedford St., Boston.
Fleming & Chapin, 215 Church St, Phila.
Witter, H M, & Co, Worcester, Mass.
Young, Wm M, 2832 Frankford Ave, Phila, Pa.

Webbing.

Excelsior Web and Tape Co, Hop River, Ct.
Witter, H M. & Co. Worcester, Mass.

Wicking (Ball).

Massasoit Mfg Co. Fall River, Mass.

YARNS, THREADS, ETC.

Banding.

Boscowen Mills, Penacook, N H.
Elder, Jas & Son, Penn Baird Sts, Germantown, Pa.
Heywood, M, & Co, Fall River, Mass.
Hudson Jas M. Mananyunk, Pa.
Moore, C, 12 S 5th St, Phila.
Small Bros, Fall River, Mass.
Whittier Cotton Mills. Lowell. Mass.
Young, Wm M, 2832 Frankford Ave, Phila Pa.

Hook Bands.

Binn's Patent Band Co. 5th & Berks St, Phila, Pa.

Carpet Yarns.

Ford, W & R, Orchard & Mill Sts, Frankford, Pa. (woolen System)
Globe Cotton Mills, Augusta, Ga.

Colored Cotton Yarns.

Santord Spinning Co, Fall River.

Cotton Warps.

Bennett & Van Valkenburg, Athol, Mass.
Chadwick, Jas, & Bro, Ltd, 503 Broome St, N Y
Clark Wm Thread Co, Westerly, R I.
Fleming & Chapin, 215 Church St., Phila. Pa.
Grant Yarn Co, Fitchburg, Mass.
Greene & Daniels Mfg Co, Pawtucket, R I.
Harrison Yarn & Dyeing Co, Pawtucket, R I.
Holmes, J C. Co. Springfield, Vt.
Howland Mills Corp, New Bedford, Mass.
Rhodes, John, Warp Co, Milbury, Mass.
Whittier Cotton Mills, Lowell, Mass.

Embroidery Yarns.

Champlain Silk Mills, Whitehall, N Y.

Fine Cotton Yarns.

Beatty, Robt, Adams & Coral Sts, Phila, Pa.
Chadwick, Jas & Bro, Ltd, 503 Broome St, N Y
Clark, Wm, Thread Co, Westery, R. I.
Globe Yarn Mills, Fall River, Mass.
Greene & Daniels Mfg Co, Pawtucket, R I.
Hadley Co, 95 Milk St, Boston.
Howland Mills Corp, New Bedford, Mass.
Hubbert, H H, 203 Chestnut St, Phila, Pa.
Kerr Thread Co, Fall River, and 29 Mercer St.
Littlefield Mfg. Co. Pawtucket, R I.
New Bedford Mfg Co, New Bedford, Mass.
Orswell Mills, Fitchburg, Mass.
Strauss, F A, 93 Greene St, N Y.
Wilkesbarre Lace Mfg. Co, Wilkesbarre, Pa.

Fire Hose Cord.

Boscowen Mills, Penacook, N H.
Whittier Cotton Mills, Lowell, Mass.

Glazed Yarns.

Blodgett & Orswell, Pawtucket, R. I.
Chadwick, Jas & Bro, Ltd, 503 Broome St, NY.
Kerr Thread Co, Fall River and 29 Mercer St, N Y.
Malcolm Mills Co, Frankford, Pa.
Warren, W, Thread Wks, Westfield, Mass.
Whittier Cotton Mills, Lowell, Mass.

Harness Twines.

Chadwick, Jas & Co, Ltd, 503 Broome St, N Y.
Hadley Co, 95 Milk St, Boston.
Kerr Thread Co Fall River, and 29 Mercer St, N Y.
Moore, C, 12 S 5th St, Phila.
Whittier Cotton Mills, Lowell, Mass,

Hosiery and Knitting Yarns.

Beatty, Robt, Adams & Coral Sts, Phila, Pa.
Boscowen Mills, Penacook, N H.
Chadwick, Jas & Bro, 503 Broome St, N Y.
Cutler Mfg Co, Warren, R I.
Globe Yarn Mills, Fall River, Mass.
Goodwill & Ashworth, Jamestown, N Y.
Grant Yarn Co, Fitchburg, Mass.
Greene & Daniels Mfg Co, Pawtucket, R I.
Jenckes, E, Mfg Co, Pawtucket, R I.
Kerr Thd Co, Cop Singles Fall River, Mass.
Littlefield Mfg. Co. Pawtucket, R I.
Mason, Wm, Mfg Co, Providence, R I.
Nemasket Mills, Taunton, Mass.
Regan, Jas J, Rockville, Ct.
Ochs' Sons, M B, 230 Church St, New York.
Orswell Mills, Fitchburg, Mass.
Rotch Spinning Corp, New Bedford, Mass.
Sanford Spinning Co, Fall River,
Winterbottom, Hyde & Co, 223 Chestnut St, Phila.
Warren, W, Thread Wks, Westfield, Mass.
Whittier Cotton Mills, Lowell, Mass.
Wilkesbarre Lace Mfg. Co., Wilkesbarre, Pa.

Jute Yarns.

Lane, J H, & Co, 110 Worth St, N Y.

Lisle Threads.

Chadwick, Jas & Co, Ltd, 503 Broome St, N Y.
Warren, W. Thread Wks, Westfield, Mass.

Novelty Yarns.

Sanford Spinning Co, Fall River, Mass.

Tinsels, Silk Noil and Fancy Yarns.

Cranston Worsted Mills, Bristol, R I.
Malcolm Mills Co, Frankford, Pa.
Strauss, F A, 93 Greene St, N Y.

Silk Yarns.

Champlain Silk Mills, Whitehall, N Y.
Cheney Bros, Manchester, Ct.
Griswold Wstd Co, Ld, 322 Chestnut St, Phila.
Walmsley, Philip, 34 Green St, N Y.
Wm Ryle & Co, 54 Howard St, N Y.
Saquoit Silk Mfg Co, 76 Chauncy St, Boston.
Taff, Alfred, 69 Mercer St, N Y

Threads.

Chadwick, Jas. & Bro, 503 Broome St, N Y.
Clark Wm Thread Co, Westerly, R I.
Greene & Daniels Mfg Co, Pawtucket, R I.
Hadley Co, 95 Milk St, Boston.
Kerr Thread Co. Fall River, and 29 Mercer St. N Y.
Moore, C, & Co, 12 S 5th St, Phila.
Warren, W, Thread Wks, Westfield, Mass.

Tussah and Chappe.

Strauss, F A, 93 Greene St, N Y.

Twines.

Boscowen Mills, Penacook, N H.
Lord, R W & Co, Kennebunk, Me.
Ware, Bruce R & Co, 200A Devonshire St, Boston, Mass.

Worsted Yarns.

Abegg & Rusch, 90 & 94 Grand St, N Y.
Allegheny Worsted Mills, Allegheny and Trenton Aves, Phila, Pa.
Goodwill, & Ashworth, Jamestown, N Y.
Continental Worsted Mills, 2100 Washington Ave, Phila.
Cranston Worsted Mills, Bristol, R I.
Johnston & Farie, 132 South 3d St, Phila.
Griswold Worsted Co, 322 Chestnut St, Phila.
Howland Croft, Sons & Co, Camden, N J.
Landenburgh Wstd Mills, Landenburgh, Pa.
Providence Worsted Mills, Providence, R I.
Strauss, F A, 93 Greene St, N Y.
Valley Worsted Mills, Providence, R I.
Washington Mills Co, Lawrence, Mass.
Woonsocket Worsted Mills, Woonsocket, R I.

Woolen and Merino Yarns.

Bewick & Kay, 25th & Callowhill Sts, Phila, Pa.
Brown, Wilson H, & Bro, Germantown, Pa.
Johnston & Farie, 132 South 3d St, Phila.
Guerin Spinning Co, Woonsocket, R I.
Sparta Woolen Mill, Sparta, Ill.

Yarn Dealers.

Abegg & Rusch, 90-94 Grand St, N Y.
Atmore, W D, 111 N Front St, Phila, Pa.
Chadwick, Jas & Bro, Ltd, 503 Broome St, N Y.
Croll, Albert Ivins, 85 Essex St, Boston.
Fox, H C, 45 Strawberry St, Phila.
Home Bleach & Dye Wks. Pawtucket, R I.
Johnston & Farie, 132 South 3d St. Phila.
King, Alex. & Co, 54 Leonard St, N Y.
Lane, J H & Co 110 Worth St, N Y.
Mitchell, Jas E. & Co, 134 Chestnut St, Phila; 53 Stanhope St, Boston.
Robbins, Chas B, 56 Reade St, N Y.
Sampson, O H, & Co, Boston, N Y, Phila.
Sawyer, Manning & Co, 85 Franklin St, N Y.
Solis, Andrew J, Jr, & Co, 179 Devonshire St, Boston.
Taff, Alfred, 69 Mercer St, N Y.
Tillinghast, Stiles & Co, 20 Market Sq, Providence, R I
Whiteside, Jas, 96 Spring St, N Y.
Winterbottom, Hyde & Co, 225 Chestnut St, Phila.

Mohair Yarns.

Thompson, Sidney, 66 Grand St, N Y.

Yarn and Warp Prtnters,

John Forrest, 25th & Callowhill Sts, Phila, Pa

DYERS, BLEACHERS, FINISHERS, ETC.

Carbonizers, Wool,

Clegg & Bro, Howard & Berks Sts, Phil. Pa

Cotton Dyers, Bleachers and Finishers.

Boston Finishing Wks, Williamstown, Mass.
Danvers Bleachery & Dye Wks, Peabody, Ms
Fall River Bleachery, Fall River, Mass.
Farwell Bleachery, Lawrence, Mass.
Greene & Daniels Mfg Co, Pawtucket, R I.
Greenwood, R, & Bault, Frankford, Pa.
Harrison Yarn & Dyeing Co, Pawtucket, R I.
Home Bleach & Dye Wks, Pawtucket, R I.
Lewiston Bichy & Dye Wks, Lewiston, Me.
Lorimer's, The Wm H Sons' Co, Ontario and Lawrence Sts, Phila.
Mason, R D, Co, Pawtucket, R I,
Pawtucket Dyg & Bichg Co, Pawtucket, R I.
Rockland Bleach & Dye Wks, Brooklandville, Baltimore County, Md.
Waltham Bichg & Dye Wks, Waltham, Mass
Way Dyeing & Finishing Co. Phila.

Silk Dyers and Finishers.

Knipscher & Mass, Gun Mill, Paterson, N J.

Yarn Dyers and Bleachers.

Cranston Worsted Mills, Bristol, R I.
Haney, T G, & Co, Jewett City, Ct.
Home Bleach & Dye Wks, Pawtucket, R I.
Mason, R D, & Co, Pawtucket, R I.
Riverside Dye Wks, Riverside, N J.
Warren, W, Thread Wks, Westfield, Mass.
Worcester Bich & Dye Wks, Worcester, Mass.

Dyers and Finishers.

Carr, Wm H (Black on Cotton), Front & Edgemont Ave, Chester, Pa.
Haney, T G, & Co (hosiery), Jewett City, Ct.
Riverside Dye Wks (hosiery), Riverside, N J.

Finishers of Worsted and Woolen Goods,

Gilmour, R, & A J, 2631 No 3rd St, Phila. Pa.
Schwarzwaelder, L, 235 New St, Philadelphia

Finishers of Damask.

Globe Finishing Works, 1731 Gillingham Sts, Frankford, Pa.

Block Printers.

Lexington Print Works, Canton, Mass.

Nap Finishers.

Boston Finish'g Wks, Williamstown, Mass.
Newburgh Bleachery, Newburgh, N Y.

Turkey Red.

Nashoba Mfg Co, Ayer, Mass.

Yarn and Warp Printers.

John Forrest, 25th & Callowhill Sts, Phila, Pa.

RAW STOCK.

Cotton.

Abbreviations: b, buyer; br, broker; f, factor; c, commission; d, dealer.

BOSTON.

Barry, Thayer & Co. 32 India St.
Beebe, L & Co, d, 89 State St.
Storrow, Chas & Co, b, 53 State St.
Weld, Stephen M & Co, b, 89 State St.

NEW YORK.

Brady, Thos H, br 216 Church St, N Y.
Capelle, H, Rothchild Bldg, N Y.
Latham, Alexander & Co. m, 14 Wall St, N Y.

PROVIDENCE.

Deming, B H. & Co, br, 5 S Water St.
Hazard Cotton Co, Jeffrey Hazard, pres, 11 Market Sq.
Reynolds, F W, & Co, 13 So Water St, Rhodes, J P & co, br.
Wilcox, L Morton & Co. br, 28 No Main St

Burr Bros. 115 So Water St, Phila, Pa.
Bowles, Wm & Sons, Memphis, Tenn.
Gunther M H, b, 316 W Main St, Louisville, Ky.

Egyptian Cotton.

Blaisdell, Saml, Jr, Co, Chicopee, Mass.
Capelle, H, Rothschild Bldg, N. Y.

Cotton Waste.

Barlow, M T, 108 Pocasset St, Fall River, Mass
Coburn, Walter & Co, Lowell, Mass.
Ford, W & R, Orchard & Mill Sts, Frankford, Pa.
Hill & Cutler, 567 Atlantic Ave, Boston.
Hull, Saml E Millbury Mass.
Massasoit Mfg Co. Fall River, Mass
Mayo, A A & Co, Springfield, Mass.
Olmstead & Tuttle Co, Chicopee, Mass.
Remick, T & Co, 489 Atlantic Ave, Boston.
Salem Waste Co. Salem, Mass.
Thorpe, John F, 185 Summer St, Boston, Mass

Peruvian Cotton.

Barry, Thayer & Co, 32 India St, Boston.
Grace, W R & Co, T H Higgins, Agt, 84 W Broadway, New York.

Silk Waste.

Heath, C A, & Co, 74 Grand St, N Y.
Heath, C A, & Co, Paterson, N J
Taff, Alfred, 69 Mercer St, N Y.

Australian Wool.

Hartley, Fred, 612 Atlantic Ave, Boston.

Wool.

Abreviations: d, dealer; c, commission; br, broker; p, puller; b, buyer; imp, importer; s, scourer.

BOSTON.

Bienenstok, S & Co, c, 204-210 Essex St.
Bond, E W & Co, b, 202 Federal St.
Brown & Adams, c, 207 & 209 Federal St.
Clark, R B, 230 Congress St, c and br.
Cordingly, W S & F, 559 Atlantic Ave.
Cross, Chas F & Co. d, 177 Purchase St
Eisenmann Bros. c, 211 & 213 Federal St.
Hallowell & Donald, c, 556 Atlantic Ave.
Harding & Caverly, c, 301 Congress St.
Hommeaway & Browne, imp, 87 Milk St

Luce & Manning, c, 138 Federal St.

Macnaughtan Co, c, 102 Federal St.
Wilder, Walter & Co. 170 Summer St, Boston
Wright, John G, 612 Atlantic Ave.
Blaisdell, S, Jr, & Co, Chicopee, Mass.

PHILADELPHIA.

Hartley, Fred, 30 Letitia St.
Heston, H B, & Co, d, 118 Chestnut St.
Kitchen, Jas G, & Co, 58 N Front St.
Patton, Geo W, & Co, 38 N Front St.

Webb, Chas J, & Co. 156 N Front St

Wood Bros & Co, imp, 27 N Front St.

NEW YORK.

Basch, Isaac, imp, 155 Duane St.
Grace, W R, & Co, Hanover Sq, N Y.

Macnaughtan Co, 212 Church St.

Manger & Avery, br, c, 107 Reade St.
Mills & Co, br, 17 Wall St.
Ross, John, & Co, d, 105 Reade St.
Thompson's, Saml, Nephew & Co 142 Duane St,
Graves, Austin C, Albany.
Hartley, Fred, 5 Mansion House Blk, Troy.

Hair.

Weeks, Chas R & Bro. 74 Murray St, N Y. All kinds for all purposes.

Mohair Dealers.

Cilley, J K, & Co, 101 Gold St, N Y.
Fisher & Lachlan, 42 Letitia St, Phila.

Noils.

Willey, J H, 139 N Water St, Phila.
Hall, Wm, & Co. 25 N Front St, Phila.

Cut Flocks.

Farnum, Jerome B, 127 Canal St, Providence, R I.

Wool Extracts.

Spink, Wm., Sciota Mills, Manayunk, Pa, (also Carbonizers and Dyers.)

Sullivan, R T, 155 Federal St, Boston.

Wool Scourers.

Duross, Thos A, Huntindon & Kensington Ave, Phila, Pa.

Wool Shoddies.

Basch, Isaac, 155 Duane St, New York.
Bowers, Jas & Son, Ltd, Chester, Pa.
Claremont Woolen Co, Claremont, N H.
Collings, Taylor & Co. Cleveland, Ohio.
E. Brookfield Woolen Co, E Brookfield, Mass.
Gray, T H & Co, 154 Federal St, Boston.
Little Falls Extract Co. Little Falls, N Y.
Mulhauser, F. & Co, Cleveland, O.
O'Neill, H A & Co, 163 No Front St, Phila, Pa.
Slack, W H H. Springfield, Vt.
Smith & cooley, Stafford Springs, Conn.
St Louis Woolen Mills Co, St Louis, Mo.
Sullivan, R I, 155 Federal St. Boston.

Wool Waste.

Bliss, Taft & Co. Norwich, Ct.
Dwight, Smith, 463 Atlantic Ave, Boston.
Farnum, Jerome B, 127 Canal St, Providence, R I.
Graves, Frank B, 14 Bleeker St, Albany, N Y.
Hull, Saml E, 112 Front St, Worcester, Mass.

Wool Combers.

Hamilton, W R & son, Lawrence, Mass.

Wool Pullers.

Malone, Jas C & Co, 138-44 14th St, Jersey City N J
N. E. Dressed Meat & Wool Co, 20 North St, Boston.
Vanderbeck, A, 404-12 E 45th St, New York N Y

Rags.

Abbreviations: w, woolen; c, cotton.

Keenan, John, 17-25 Richmond St, Boston.
Moynihan, J J, 270 Federal St, Boston.
Priest Bros, 353 Canal St, Providence, R I.
Sargent, Henry, 8 Wash'n Sq, Worcester, Mass
Lewy Bros, 140 Nassau St, N Y.
McNaught, W W, c, w, 467 Atlantic Ave, Boston
Berg, Isidore, 189 So 5th Ave, New York.
Meyers, Edw N & Bro, 141 Duane St, N Y.

Rawitzer, S. & Co, 140 Duane St, N Y.

Allen, Wm F, & Co, 132 N Front St, Phila.
Dodgson, H, & Co, c, w, 153 S Water St, Phila.
Kenworthy, B, & Co, 150 N Front St, Phila.
Kenworthy, T, & Bro, 111 Church St, Phila.
McMahon, J H, 15 Letitia St, Phila, Pa.
Neufeld, David, 1149 N Front St, Phila.
Sullivan, L, & Co, c, w, 612 St John St, Phila

Tailors' Clippings, Seamed Cloth, Etc.

Levy, Geo A & Co, 20 Lincoln St, Boston
Moss, A, 151 & 153 Fulton St, Boston.

SITUATIONS WANTED.

The advertisers in the following columns should be addressed in care of Textile Mfg. World, or inquiries concerning them may be addressed directly to "Information Department, Textile Mfg. World," as full particulars of each advertiser are on file, and the addresses of suitable agents, superintendents and foremen for every branch of the textile industry will be furnished to manufacturers.

Any subscriber may file his application, and no charge is made until position is secured.

The business of this department is held strictly confidential.

The applications of good overseers in every department, who are in want of positions, are solicited.

Manufacturers are invited to use this department when in need of skilled men; each case will be handled confidentially, with promptness and judgment, and without charge to manufacturers.

COTTON SUPERINTENDENTS.

568 **Has had extended experience** in best New England mills; either as superintendent or carding overseer; very best references. Shirtings, sheetings, twills, white and colored.

679 **Ginghams or white** work in New England mill. Age 36, married. High reputation won by unusually successful career. Nothing less than $2500.

758 **Gingham Superintendent** with experience on fine dress goods and shirtings. Age 38, married, and a desirable man.

764 **Agent or superintendent**, has worked on threads and yarns, leno goods, lawns, satteens, etc., excellent references. Age 33 and married. Wants greater responsibility.

822 **Cotton flannels, all grades.** Desires position as superintendent, or assistant superintendent. Age 33; married.

914 **Mechanical engineer and cotton** mill superintendent, English, of high character and ability, wants a position in the South as superintendent, or would undertake the erection and starting up of cotton mills.

934 **Ginghams, cotton dress goods,** shirtings, cotton and woolen, both fine and coarse, also cheviots. High up in his knowledge of these goods. Experience gained in Scotch mills. Is a practical dyer and finisher, and a practical designer. Desires a position as agent or superintendent, or as superintendent and designer. Age 42; married.

1010 **Wants position as overseer** in large mill or superintendent in a small mill. Strong point weaving. Good man. Is 42, and married.

1016 **Very desireable man,** wishes a superintendency. Strong point weaving, spooling, warping and dressing, but has also done good work in designing. Shirtings, sheetings, ginghams, ducks, demins, etc., etc. Is 35 and married.

COTTON CARDERS.

287 **Very Capable Cotton Carder;** age 42; married.

502 **Is an excellent overseer** on combed, carded, or colored stock; was in charge of a few of the best rooms in the country. 46 years of age, salary very moderate.

645 **Coarse and fine,** colored and white. Brought up in good mills. Thoroughly understands all makes of machinery in his department.

796 **Spinning or carding or both.** Good man, good record, prefers New England or Middle states, 45 years old, married. Salary $3.00 or so.

811 **All grades, carded, combed** white and colored. Is not afraid of rapid changing over. Good references, good experience.

824 **Good man for overseer** in medium or small mill, or for second hand in any large mill; good at figuring; good references.

826 **Has worked in best New England** mills; as second hand, and capable of taking an overseership in medium or small mill. Age 31.

835 **Overseer or second hand.** Has been second hand in some of the leading corporations in Mass. Salary, lowest, $2.75 per day.

839 **First Class Man, Small Mill.** Has worked on rope, twine, warps and hosiery yarn; white and colored. Age 30; married; salary $2.50.

910 **Is a good carder** on plain, colored and fancy white stock. Age 41. $2.50 and up.

922 **All kinds white or colored** from 1-2 to 14 hank. First-rate experience and references. Age 44, married. Salary $3.50.

925 **Extensive knowledge** in cotton carding, excellent references.

926 **Capable, bright, enterprising** has had first-class experience as a carder; age 32, maried; salary moderate.

931 **Prefers a medium sized mill.** Has had good rooms, and has been 15 years an overseer. Wages $2.50, or so.

1001 **A young man with 20 years** practical experience, 8 years as overseer. Understands English and American machinery, including combers. Has worked on sateens, sheetings, muslins, ginghams and prints. Age 38, married. Best of references. Pay $3.50 and up.

1006 **Thread, hosiery yarns,** combed and carded. Has never held overseership but second hand in first class N. E. mills. Age 40, married.

1009 **Carded for the finest threads** for fancy goods, prints and sheetings. Prefers N. E., good references.

1011 **Southern man,** carding or carder and spinner in small mill.

COTTON SPINNERS.

555 **Ring spinning**, spooling, warping, twisting, reeling, winding and quilling. Age 28, married.

560 **Warps 4's to 60's.** Fillings, 16's to 20's Ring spinning. $4.00.

569 **Mule or Ring Spinning**; overseer. Has worked in good mills. Good references. Age 30; married; salary $3.00.

660 **Every variety** of yarns known to cotton manufacturing. Mule spinning, but will take rings with mules.

694 **Mule Spinner.** Age 41, married. Large or small room. Mason or Parr mules, any number of yarn.

725 **Ring spinning overseer** with experience on a wide range of goods. Age 28 and married. Salary moderate.

766 **Overseer of mules and frames** has had experience in hosiery and all kinds of cloth mills, excellent references. 52 years of age, and married. Salary moderate.

805 **Spinning, spooling, slashing**, etc. Is young and capable, comes from a race of first class cotton men. Would also take a position as superintendent of yarn mill; salary moderate.

817 **Warp yarn and carpet yarns.** Nos. 5 to 18. Desires position as boss ring spinner, twister, spooler, etc. Age 24, unmarried.

902 **Fall River man**; 33 years old; married, wants position as overseer of mules. Number of years' experience as second hand in first class mills.

907 **Ring Spinning; Mule Spinning.** On the one from 4s to 150s, on the other from 4s to 120s. Good references, experience in best N. E. mills. 34; married.

1003 **A1 Spinner, Mules and Frames.** 38 years old. Has practical experience in spooling, warping and dressing.

1018 **Overseer of Mason mules** and frames. Experience in some of the very best mills. Age 39, married. Salary moderate.

COTTON WEAVERS.

176 **South preferred.** Understands fixing a loom, and not afraid to do it. Gets on well with Southern help.

429 **Has worked on fine goods** of all kinds as overseer. Salary according to position. Age 28.

539 **Excellent manager** of help. Splendid record of production. Plain and colored work. Twills, ginghams. Age 35, married.

684 **Likes West or South.** All grades of brown goods or fine sheetings. Age 52, married.

711 **Southern, Western States** or Penn. prefered. Has had good experience on all kinds of heavy white or brown goods. Age 40, married. Pay moderate.

726 **Capable overseer** with experience on points, sheetings, twills, and sateens. Married, age 35.

837 **Sheetings, twills, satteens**, fancy goods, and leno. Age 34, married.

938 **Experienced on Checks**, duck, sheeting, drilling, cottonades, awnings.

940 **Boss Weaver, Designer or Assistant** superintendent. Has worked in some of the best mills, principally on fine goods, plain twill, sateens, fancy harness work, lenos, box work, etc.

1019 **Plain, Satin, Fancy, and Leno**, designer on. Age 38, married. Would also take a position as second hand.

WOOLEN SUPERINTENDENTS.

654 **Cloakings, Cassimeres,** dress goods, flannels. Graduated from the weaving department; age 32, not married. Moderate salary.

760 **Superintendent or Asst. Superintendent** and designer, has worked on fancy cassimers, cheviots, and meltons. Age 31 years, married. Salary moderate.

771 **An excellent Supt.** for any woolen mill needing a man with his experience on cassimeres and dress goods. A good manager of help. Salary moderate.

781 **Thoroughly understands fabrics.** Superintendent and designer for many years in England and America, on all kinds of plain and fancy woolens and worsteds. Is married. Prefers to go South or West.

791 **A 1. Ranks high because** of his life long and minute acquaintance with all kinds of worsted yarns. Native of France, 42 years old. Held responsible managing positions abroad. Salary $2000 or will take interest with responsible parties. Investigate.

803 **Is in the first ranks,** very able, good references; experience on all kinds of mens wear and dress goods; 38 years old and married.

816 **A first class superintendent,** now employed, desires to change. Very extended acquaintance with all classes of worsted and woolen cloths. Invites correspondence.

819 **Experienced** on worsted suitings and cloakings, all kinds of face finished goods; piece dyed and wool dyed; cheviots and chinchillas. First class man. Age 37, married.

901 **Worsted superintendent**; long experience as manager of mills in Europe. Can build or repair all machines. Practical in details of both French and English systems.

911 **Colored cotton, worsteds, and** cassimeres, 11 years superintendent in 3 different mills, 44 years of age, married.

912 **Superintendent or boss carder**, good references. His forte flannels, dress goods satinetts, union cassimeres. 41, family. Salary moderate.

930 **Asst. Supt. overseer of weaving** and designing. Has worked on all kinds of men's wear, dress goods, kerseys beavers, etc. Age 43; married.

942 **Is Expert on Woolens, Worsteds** and dress goods. Desires a position as superintendent, or assistant superintendent and designer, or designer alone. Has worked in best New England mills. Salary $2000 per annum.

1014 **Designer, asst. supt., or supt.,** in medium or large mill. Has worked on cassimeres, unions, overcoatings, worsteds, solid, and cotton warp, and cotton filled worsteds. Excellent references.

WOOLEN CARDERS.

178 **Is the man** conservative mills are looking for; 38 with a family, desires pleasant town to settle down in. Excellent carder on wool or cotton and shoddy mixed dress goods.

261 **Principally Low Stock.** Age 33, married. $2.75 per day. Does not change frequently.

579 **Carder of the first rank,** has worked in the very best mills, well posted. Strong point; Australian and low stock.

707 **Fine Flannel and Dress Goods** stock understood. A capable man, 35 years old, single. $3.00.

710 **Low stock his strong point,** but has carded all kinds of stock. Age 40; married. Salary $3.00.

738 **Boss Carder.** Knitting mill preferred. References excellent. Age 38 years.

787 **Capable man.** Carder, 42 years old, married. Good experience and well recommended. Has worked on beavers, cassimeres, dress goods, all kinds of mixes and hosiery.

797 **Will go anywhere,** trained under good men when second hand, experience in good mills since. Strong acquaintance with flannels, shawls and cassimeres. Age 33, married, salary $3.00.

829 **Has carded all kinds of stock** and worsted in some of the very best rooms in New England as second hand, wants overseers position in a small room, and can fill it. Salary moderate. Age 30; married.

833 **Carded fine flannel and ladies** suiting stock. Prefers Mass., R. I., or Conn., to work in. Is 27 years old and married; salary $3.00.

836 **Strong point, hosiery,** but has also carded extensively for dress goods, flannels, tweeds, etc. Age 35. Salary moderate.

923 **Knitting mill his forte** either carding or spinning department or both, or could manage a mill; 28 years old, married. Wages $3.00.

932 **Carder and spinner** in 3 to 5 set mill. Has worked on fine dress goods and cassimere stock. Age 29; married. Wages $3.00, or so.

WOOLEN SPINNERS.

222 **First Class Overseer,** has worked on all classes of goods and in some of the most successful mills. Age 30; married.

685 **Fancy Yarns** as well as all grades of woolen. Just out of position through stoppage of mill. Age 37, married.

697 **Smart young man.** Good mule fixer, and had charge. Age 24, married. $2.50 per day. All grades of stock.

780 **Wide experience** as boss spinner on variety of stocks: Johnson & Bassett, Davis & Furber, Woonsocket Mule, and the Wright Spinner. 28 years old and single; best of references. Will not go West or South. Salary moderate.

941 **A Very Efficient Man.** Used to most every class of woolen goods; age 28, married. Salary moderate.

1017 **Boss spinner** on stock for cassimeres, beavers, cheviots, flannels and woolen shirting. Age 29, married. Wages $2.50.

1021 **Worsted overseer** of spinning and drawing, or superintendent. Mohair and long and short wools.

WOOLEN WEAVERS.

104 **American.** Practical and hard working. Good knowledge of designing, gets along well with help, understands looms thoroughly. Fancy cassimeres, shawls, dress goods.

176 **American Boss Weaver**; good manager of help. Has worked in cotton, woolen and jute mills. In cotton on 3 harness drill, plain duck, osnaburgs, sheetings, shirtings, etc.; in woolen, 5 harness Ky. jeans, linsys, etc.; in jute, on bagging; age 40; married; temperate, with good references. Salary moderate.

596 **Able, willing young man.** Age 28, unmarried. Successfully held position in twelve set mill on high grade worsteds and woolens. Good references.

614 **Boss weaver and designer** has had a wide experience on cassimeres, dress goods, worsteds, casket cloths, beavers, flannels, blankets, doeskins, satinetts and jeans. 45 and married. Salary $3 or so.

702 **Reliable overseer** of weaving. Son is loom fixer. Worsteds, shawls, flannels, all kinds of woolen goods, ginghams. Good references. Age 50, married.

741 **Woolen and Worsted Weaver** on fancy worsted, cassimere and dress goods. Good references.

920 **Worked in some of the best** N. E. mills. Dress goods, unions, cassimeres, worsteds and cheviots. 28, and married. $3.00 or so.

1004 **Now in the West**, good weaver. Experienced also in the best Eastern mills. Has worked on cassimeres, meltons, cheviots, beavers, cloakings, worsteds. Is 38 and married.

1008 **Wants boss job in flannel mill.** Northern New England preferred, also a good man for dresser or fixer, has worked on flannels, serges, cheviots, fancy dress goods. Is 34, married.

1020 **Woolen weaver, first class man.** Experienced on cassimeres, dress goods, shawls, flannels, etc. Good references.

WOOLEN FINISHERS.

193 **Woolen Finisher of first rank,** all classes of woolens from loom to case. Age 44; married.

358 **Heavy overcoatings**, beavers, chinchillas. Never held overseer's position, but second hand in fine mills. Would start low.

783 **Competent overseer** of wet and dry finishing. 46 years old, married. Has first-class recommendations. Many years experience on all classes of goods. Wishes to remain in New England. Fair salary.

828 **Desires a position in finishing** room; as second hand preferred. Is bright, intelligent, and capable of an overseer's position, acquainted with flannels, fancy suitings, cassimeres, overcoatings, carriage cloth, fancy mixed beavers. Age 25.

832 **A young finisher** desires a position as overseer. Has worked on all wool cassimeres, suitings, dress goods and cloakings, worsted suitings, and cotton and worsteds, union cassimeres and low grade shoddy. Age 28; married. Salary $3.00 or so.

PLANT OF COTTON MACHINERY

for the manufacture of

White and Colored Cotton Yarns.

All nearly new and in first-class order. Full schedule mailed on application.

G. W. ARNOLD, - - - Troy, N. Y.

WOOLEN FINISHERS.

905 **Chinchillas.** Wants position in charge of finishing. Has knowledge of about 150 styles in this line. Age 32; married. Pay moderate.

1007 **Dress goods and fine meltons** prefered, but has worked on all kinds woolens. N. Y. or N. E. states. Age 22, salary moderate

DYERS.

696 **Wool and Worsted**, piece dyes, and cotton yarns. Age 25, single. $3.00. Excellent references.

728 **Woolen dyer.** 27 years old, married, and has had a very wide experience on all classes of woolen goods. Has had experience in carpet mills and knitting mills Expects good wages. Can furnish high ref erences.

742 **Cotton, Wool and Worsted Yarns** all colors. First class references. Age 43, married. Salary $35 per week.

748 **Carpet yarns, hosiery** and felts. Aged 29, Married. No objections to going out of New England.

754 **Raw cotton and wool**, yarns and woolens. Has worked ten years for one company. Wages $3.00.

765 **All kinds of cotton goods** either yarns or piece, can take a position at short notice. A good overseer, age 50, married.

774 **Worsted yarns, blue vats** pur woolen piece goods his strong point. Wants position as overseer. Age 34, four years experience in Rockville, Conn.

784 **Has good references.** Many years experience on dress goods, indigo blue, raw wool, yarn and piece dyeing. Married. Prefers eastern and middle states. Moderate salary.

793 **Boss dyer or second hand** has had experience in high standing mills on cotton and woolen dress goods. Age 23, salary $3.00 or so.

794 **All classes** of knit goods, and no better man for the work. Age 40, when a man's at his best. Married.

795 **Ten years experience**, strong point. skein, warp, hosiery yarns and long chain. Laboratory experience extensively on raw stock; 30 years old.

798 **Now employed**, giving good satisfaction; Age 36, married, experienced on wool, woolen and worsted yarns and piece goods, cotton and cotton yarns.

804 **All kinds of fancy woolen dyeing**, woolen and worsted skein, and piece; high or low grades, and raw stock.

806 **Has colored hosiery**, woolen yarn, piece goods, stubbing, raw stock and run indigo vats with success. Salary moderate.

808 **Cheviots, demins, cottonades,** checks, ginghams, shirtings, tickings; is 39 years old and married.

818 **All wool and merino hosiery**, carpet yarns, raw wool, rags, shoddy, and mixed goods. Age 30; married. Salary $3.00 or so.

831 **Experienced on woolen dress** goods and fancy cassimeres. Age 24. Salary $2.50 per day, or so.

900 **Cotton**: long and short skein, hosiery piece dyeing, and raw stock; has worked in good mills. 33 years old; married $3.50 or so per day.

DESIGNERS.

197 **All kinds of goods.** Age 34, unmarried. Past ten years has had great experience.

690 **Designer.** Fancy worsteds, cassimeres. Would also like the position of assistant superintendent. Refers to any firm ever worked for. $1200 or upwards.

760 **Desires advancement** in responsibility. Superintendent or Asst. superintendent and designer. Salary moderate; experience on fancy cassimers, cheviots and meltons. 31 and married.

755 **Young and Ambitious,** has worked on fancy cassimeres and cheviots, but principally worsteds. Would take a position as designer.

825 **First-class experience, English** mills, 4 years as assistant designer, and 3 years as designer and assistant manager. Fancy worsteds, woolens, serges, etc. Young man.

834 **Could introduce some good** things he claims, either in fancies, coatings, vicunas, Llamas, etc. Practical training acquired in England.

KNITTERS.

767 **Overseer of knitting,** has had a large experience on hosiery, will go any where. Pay moderate. Age 33, and married.

773 **An experience** on all kinds of underwear and plush. A good man, 45 years old and married. Overseer's position anywhere except the South.

673 **Superintendent of woolen hosiery.** Practical knitter and dyer. Large mill wanted. $4.00 per day.

721 **Superintendent** with good practical experience on fine and coarse seamless hosiery and mittens, unmarried, age 25 years. Pay $3.50 per day.

723 **Knitter or fixer,** has worked on stockinets, jersey cloth, rubber linings and fancy goods. Age 22, $15.00 or $18.00 per week.

769 **Capable manager** for any underwear mill wants a more responsible position, would especially desire to help start up a mill on ribbed goods.

772 **Boss knitter,** has worked as overseer in northern New York mills, experience on wool and cotton, heavy and light underwear. 31 years old, married. Pay very moderate.

815 **Superintendent** rib, circular, or fashioned. Underwear and hosiery, cotton, merino and worsted. A good man. Age 45,

Wanted. Am open for hosiery and underwear to sell on commission in Western Penn., Ohio and West Virginia. Have established trade among jobbers and large retailers. I. A. Samuels, 910 Liberty St., Pittsburg, Pa.

TO LET, VERY CHEAP.

Buildings and water power in first class condition. Modern improvements. Suited for any kind of manufacturing. Address "T Y," care Textile World.

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Hosiery Factory

In the Gas Belt of Indiana.

Free Fuel and Lights for factory and a **Bonus of $3500** in two years. Present owner wishes to retain part interest if agreeable to purchaser. Six months continued sickness reason for selling. For further information address, R. L. SQUIER, Marion, Ind.

FOR SALE!

A Mill Site

and Water Privilege, 11 miles from New York City. The site consists of about 8 acres of land with cottage house and frame storehouse 60x100, and a stream of pure spring water; water giving 70 to 80 horse-power. Low Taxes and good railroad facilities. For bleaching, dyeing and finishing business, or any business requiring pure water, with privilege of emptying refuse into the river, no better site than this can be found. This property will be sold cheap and on easy terms. Apply to BYRNE BROS. & CO., Lodi, Bergen County, New Jersey.

FOR SALE. Valuable Machinery.

One Tentering and Drying Machine; James Butterworth's make, nearly new, cost $2400; Price $1200.

One Curtis & Marble Folding Machine, nearly new, cost $600; Price $300.

One Gas Singeing Machine, cost $400, run one month; Price $250. Address,

G. W. ARNOLD, Troy, N. Y.

FOR SALE!

Steam Blower

made by Deane Steam Pump Co., Holyoke; in good condition; has been used to pump air into liquids. Address L. WARE & SONS, 473 Atlantic Avenue.

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HORACE S. CROWELL,

216 Washington St., Cor. of State St.,

BOSTON.

KNITTERS.

830 **All classes cotton and woolen** hosiery. 28, and married. Salary $5.00 per day, or so.

915 **Wants position as boss knitter** or superintendent in hosiery mill. 21 years old, unmarried, salary $3.00 and up.

KNIT GOODS FINISHERS.

843 **Boss Finisher** of 13 years' experience on all kinds of cut and fashioned shirts and drawers. Understands all kinds of machines used in same. 41 years old, married. Salary $3.00 per day.

Hosiery finisher and Boarding. I have had 22 years experience on cotton and woolen goods, and for a number of years have been in charge of this department. For a small mill can handle both rooms. Am 40 years old, married, temperate. Can furnish good references. Am at present out of work on account of dull times. I should prefer a position in New England, New York or Pennsylvania, and am willing to work for fair pay. Can come at once. Address P, 1.6, care Textile World.

MISCELLANEOUS.

717 **Overseer on Noble combs.** As such can give satisfaction. Has had extensive experience on all grades carpet wools, shades and fancy mixes. Unemployed as mill shut down. Age 35. $3.00.

737 **Twisting Reeling and** Winding, either ring or flyer frames sewing thread, carpet warp, cotton flax or hemp.

782 **Temperate and steady.** Dresser tender. 38 years old, single. Many years experience on worsted coatings, cassimeres and dress goods. Good references; moderate salary.

959 **Overseer of worsted Spinning.** Six years' experience. Has worked on all numbers. 28 years old, married. Salary $2.50 to $3 per day.

972 **Situation wanted** by a man capable of taking charge of dressing in a woolen mill, or would run a frame. Has had six years experience. 23 years old, married.

533 **Situation wanted** as superintendent in flax, hemp or jute mill. Can make all kinds of yarn, threads, sail twines. Best of references as to character and ability. Twenty years experience in the same line, both wet and dry spinning.

Factory Sites

For Sale or Lease

OLD TOWN, MAINE.

Unfailing water power at a very low price. Abundant supply of reliable operatives. Railroad track to the mill yard. Exemption from taxation for 10 years. Address J. W. HARMON, Agent Bodwell Water Power Company, Old Town, Maine.

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FOR SALE OR LEASE.

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Cheap water power transmitted by electricity to all departments of the factory, saving in shafting and friction of operating any other than the machinery actually in use. Every essential. Population 50,000; abundant help. Address, **J. B. BAR-THOLOMEW, Topeka, Kansas.**

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Cotton and Woolen Machinery.

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ROTARY CLOTH PRESSES FOR SALE.

We usually have on hand, taken in exchange, rotary cloth presses of nearly all the best makes. These will be sold at a bargain, and put in first class condition, practically as good as new, if so desired. We now have on hand a 12-in. Cylinder Springbaum, and a 10 in. Cylinder Miller Press, 2nd hand. Miller Press & Machine Co., Woonsocket, R. I.

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Good chance for a small plant to fully supply their wants, or a larger mill to make additions at decided advantage.

LOOMS.

Some special bargains in 40-inch looms.

SPINNING.

50 to 60 Whitin frames 1 3-4 inch ring, 6 inch traverse, with separators, at decided bargain.

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2 1-4 to 4-inch ring, 120 spindles each, in excellent condition, will be sold cheap.

YARN PLANTS.

One of 5000 spindles complete, with or without real estate, and several others.

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26 Exchange Place, Providence, R. I.

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Cotton Manufacturer

WANTED! To correspond with an experienced and practical "Cotton Mill Man," possessed of some capital to invest in a cotton mill and operate the same. The mill is not only in perfect running order but is also most favorably and beautifully located adjoining the city. Address C. L. Stadtler, Pres. Excelsior Manufacturing Company, Cuero, Texas.

Amount of capital not so important as to secure the right man who is capable of running the business successfully.

BALDWIN'S

Self-Instructor in Designing.

I have one copy which cost $10.00 a few months ago and will sell it for $6.00.

Address, X. X. X., This Office.

Valuable Mill Site.

AT SALEM, 2000 ft. frontage on Salem Harbor, with wharf 365 ft. in length for landing coal or materials. Track connection can easily be made with the B. & M. and Lowell R. R. systems, a few hundred feet distant.

The property comprises 12 acres of solid upland located next eastward of the coal piers of the Philadelphia & Reading Coal & Iron Co.

A brick factory and engine room 50x125 ft. brick chimney, 100 H. P. engine, shafting, &c. 110 H. P. boiler. Wooden warehouse 50x100 ft., iron sheathed, 2 stories with elevator.

2 wooden buildings 30x15 ft. and 25x10 ft.

Large dwelling house, barn and stable. City water supply from Wenham Lake. For sale by Lamont G. Burnham, Boston; Henry W. Peabody, Boston; Henry C. Piper, New York, Trustees.

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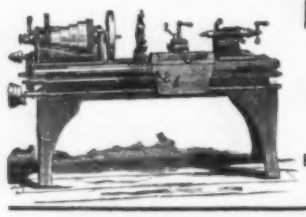

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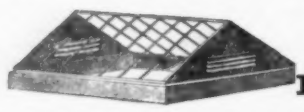

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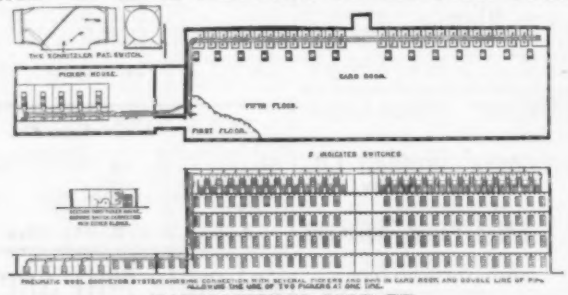

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A STRAIGHT TIP.—DON'T MISS IT.

We have just published a little affair that should be in the hands of every cotton manufacturer, whether president, treasurer, agent, superintendent, carder or in any way interested in the business. It contains points that will put money in your pocket. It will be sent with pleasure to any of our friends who will write for it.

THE METALLIC DRAWING ROLL CO.,

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Caution.—The patents held by this Corporation cover every description of metallic rolls so separated or adjusted as to perform the function of drawing or elongating the fibres of cotton or other material preparatory to twisting or spinning the same. Consequently whoever makes, sells or offers for sale, or uses or has in his possession, any infringing devices with intent to use the same, will be promptly prosecuted to the utmost extent of the law.

JUL 26

MILL NEWS.

See also Page 24.

New Mills.

Cotton.

—ALABAMA, Bluffton. A party has been formed to change over the American Arms Co. building into a cotton factory. W. M. Pennell, of Augusta, Maine, has been active in the work.

—*ALABAMA, Cragdale. The proposed Cragdale Mfg. Co. reported March, 1893, is now an assured fact. J. H. McLane, of Montgomery, has perfected arrangements to secure $200,000 to build and equip the mill. W. Taylor, of Talladega, who is also interested, informs us that they propose a cotton factory of 20,000 spindles and 300 looms, with an electric plant, and an electric railway running into Talladega, a distance of four miles. It is expected that work will be commenced at once on the construction of the building.

—*GEORGIA, Atlanta. In regard to the Gate City Cotton Mills which we mentioned a few weeks ago, we learn that this enterprise is practically assured, and that it is the intention to have a 20,000 spindle mill, 500 looms, with the latest improved machinery, and that it is intended to make print cloths of good grade.

—GEORGIA, Covington. It is reported that a new cotton factory will be erected at White's Shoals, south of Covington. No names were given out.

—GEORGIA, Newman. The Newman Cotton Mills are building a dye house for the purpose of dyeing short skein and raw stock.

—MASSACHUSETTS, Lawrence. F. J. Riley & Co., 356 Common St., have started the manufacture of Turkish bath towels, terry cloth, etc.

—NORTH CAROLINA, Albemarle. John A. Blackwelder, of Concord, is interested in the erection of a cotton mill at Albemarle.

—NORTH CAROLINA, Gastonia. The new Modena Cotton Mills will begin production June 1. Mr. J. F. Storey is in charge.

—NORTH CAROLINA, Henderson. There is a movement on foot for the establishment of a new cotton mill at this place. No names are reported.

—PENNSYLVANIA, Philadelphia. J. Leser & Co., Twenty-fourth and Linn Streets, is the name of a new company formed for the manufacture of cotton and woolen goods.

—TEXAS, Dallas. A proposition has been made by C. A. Reeves and George Thomas of Manchester, England, to build a cotton mill of 60,000 spindle capacity. These men are now in the city and are conferring with the Dallas Commercial Club, of which Mr. Philip Sanger is president. Nothing definite has been given to the public as yet.

—VIRGINIA, Danville. The Riverside Cotton Mills are now building a new mill, which will be the No. 6 Mill. The new structure will be 80x275 feet, five stories high, with a picker house 40x85 feet, two stories.

—VIRGINIA, South Norfolk. It is reported that a new cotton mill is to be built at this place, at a cost of $200,000. No names have as yet been given out.

Woolen.

—MAINE, East Madison. W. Edwin Ulmer, of Portland, has been visiting this place with a view to rebuilding the old Wesserunsett Woolen Mill, which was destroyed by fire some five years ago.

—*MAINE, Rumford Falls. The Rumford Falls Woolen Co. has been orgonized, with capital stock of $50,000. Col. S. P. Train, of Boston, is president, and H. G. Fuller, of Rumford Falls, superintendent. The mill will be a two-set mill, built of brick, 100x54 feet, three stories, with picker house 32x40 feet. Contract for building has not been let. They will manufacture the Oxford Brand of felts for paper and pulp mills. C. D. Brown & Co., Congress St., Boston, will be selling agents.

—MAINE, Vassalboro. Work has been commenced on the construction of the new woolen mill of Chas. Greenwood & Co., to take the place of the one recently burned. The new building will be 32x70 feet, three stories high.

—MASSACHUSETTS, Franklin. It is reported that Waite's Felting Co. are preparing to rebuild their mill, which was destroyed by fire about a month ago. A brick building with wooden frame is contemplated.

—MASSACHUSETTS, Springfield. The old silk mill on Mill River, a two-story wooden building, 60x30 feet, has been purchased by Mr. Denio, of Middletown, Conn., who will start up a braid factory.

—NEW YORK, Greenbush. Messrs. Huyck & Argersinger, whose felt mills at Albany were recently burned, have purchased a lot of land at this place, fronting on Fourth Avenue, where they will rebuild their mill. This new building will be 200x60 feet, three stories high, and work will be commenced at once on the construction.

—OHIO, Fostoria. A company known as the Chicago Woolen & Waste Co. has been formed and will locate at Fostoria. The city furnishes them with building and they agree to employ not less than forty men in the factory. Machinery costing $3000 will be placed at once. The company is composed of A. Barraclough and S. and Z. Berkenstein, of Chicago.

—PENNSYLVANIA, Philadelphia. John G. Carruth & Co., proprietors of the Endurance Mills, are erecting a new building on Indiana Avenue and Clearfield Street. It will be a brick structure, 58x225 feet, five stories and basement, with an L 40x60 feet, two stories, also of brick. Owing to the large amount of business this company does they have heretofore been obliged to rent two mills at different places. This will enable them to carry on their entire business at one place.

—*TEXAS, Dallas. There is a project on foot for the establishment of a woolen mill at this place. Several local capitalists will subscribe $10,000 each. The Board of Trade can give information.

Knit.

—MASSACHUSETTS, Chicopee. A new knitting mill is about to be erected at Chicopee, to be known as the Russell Knitting Mill. Dennis Murphy is the party interested.

—MICHIGAN, Detroit. The Ryan Bros. Knitting Co. have filed articles of association. The capital stock is $15,000 divided into 1500 shares, of which $2500 has been paid in. The stock is held as follows: Maria Keane and Anna Ryan 749 shares each, and Dennis T. Ryan and John T. Ryan, one share each. They have 125 knitting machines for the manufacture of cotton and woolen half hose, ladies' and children's hosiery, gloves, mitts, cardigan jackets, socks, etc. They will commence production June 18.

—NEW HAMPSHIRE, Laconia. The Estey Hosiery Co. has been incorporated with a cash capital of $100,000. William Estey is president and Maurice Laury, of New York, is treasurer.

—NEW YORK, Sand Lake. The Beverwick Mills were incorporated June 5 with capital of $30,000 to manufacture knit goods. The directors are A. B. Knowlson and J. S. Knowlsyn, of Sand Lake, and A. M. Knowlson of Troy.

—*NORTH CAROLINA, Valdese. The hosiery mill, which is being built by John Meier, is nearly completed, and machinery will be put in in a few days. The building is 82x70 feet, two stories high.

—PENNSYLVANIA, McAllisterville. It is reported that I. P. Bashore will rebuild the McAllisterville Knitting Mill.

—SOUTH CAROLINA, Columbia. The authorities at the Penitentiary are preparing to rebuild the hosiery mill which was recently burned. The new mill will be 60x150 feet, three stories high, of brick.

—*VIRGINIA, Winchester. In regard to the knitting mill which we previously reported has been organized at Winchester, we are informed that the Messrs. Leafe Bros., of Bristol, Penn., will remove their plant here June 1. They manufacture plain and ribbed cotton hosiery.

Silk.

—NEW YORK, Hornellsville. A new company, called the Hornellsville Gauze Co. has been incorporated for the manufacture of silk veiling.

—*NEW YORK, Unionville. The Minisink Silk Mfg. Co. Ltd., has been organized with $10,000 capital. Dr. E. A. Nugent is president; J. E. Beemer, vice president, and J. O. Austin, secretary. The company will be incorporated under the laws of New Jersey. The building will be 42x100 feet, and will be erected at once.

—PENNSYLVANIA, Allentown. A new silk mill is to be erected at South Allentown by Messrs. Herman. Plans are being made and the contract will be given out at once. The main structure will be 50x200 feet, three stories high. A two-story addition containing offices and vaults will be erected, also boiler and engine house.

—PENNSYLVANIA, Philadelphia. Mayor Garrett, of this city, is in correspondence with a gentleman from Connecticut, who is interested in the manufacture of silk. He proposes a plant with machinery costing $40,000, if the citizens will furnish building and land at a probable cost of $15,000. The company further agrees to pay the interest on money paid for the building and all running expenses of the plant for a term of ten years, at the expiration of which they expect to buy the plant.

Miscellaneous.

—CALIFORNIA, Golden Gate. Plans are being made for the erection of a dyeing establishment at this place. The building will be 40x70 feet.

—PENNSYLVANIA, Frankford. John G. Campbell & Co., proprietors of the Standard Finishing Works, will build a new mill on ground recently purchased at Frankford Junction. The new building will be two stories high, with separate engine and boiler house. Mr. Campbell says that they have run their works uninterruptedly day and night through the business depression, and they find that their present mill is not large enough for the work they have to do.

—PENNSYLVANIA, Wrightsville. Efforts are being made to establish a lace factory at this place.

Enlargements and Improvements.

Cotton.

—ALABAMA, Prattville. The Prattville Cotton Mill has recently put in a new water wheel of 220 h. p., and they contemplate putting in an electric light plant shortly.

—ALABAMA, Union Springs. The Union Springs Cotton Mills company contemplate building an addition to their mills, and putting in 100 new looms.

—GEORGIA, Atlanta. The Exposition Cotton Mill company will add 20 new looms to their mill. This is a 16,000 spindle mill, manufacturing sheetings and shirtings.

—GEORGIA, Augusta. Clark & Co., proprietors of the Globe Cotton Mills, will put in fifty new looms for the manufacture of ducking and heavy cloth. Heretofore they have made only yarns.

A. KLIPSTEIN & COMPANY,

Dyestuffs & Chemicals

Fast Alizarine Colors

For Wool a Specialty.

122 Pearl Street, NEW YORK.
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WOOLEN MACHINERY

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Power furnished at very low price.
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